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9000 Appendices

9100 Initial Emergency Notification & Response

Because this section deals with the initial emergency phase of a response, it is located in the front of the Area Contingency Plan for quick access.

9200 Personnel Services and Directory

Because this section deals with the initial emergency phase of a response, it is located in the front of the Area Contingency Plan for quick access. In addition, Section 5000 contains a Resource Database enclosure.

9300 Draft Incident Action Plans

9310 Site Safety Plan

A. SITE DESCRIPTION

Date:_____ Location: _____

_____

Hazards:
Oil: _____

_____

Treatment chemical: _____

_____

Weather related hazards: ☐ heat stress ☐ hypothermia ☐ frostbite ☐ severe storms

Area Affected:

Surrounding Population: ☐ industrial ☐ residential ☐ rural ☐ unpopulated

☐ other: _____

_____

Topography: ☐ rocky ☐ sandy beach ☐ docks ☐ Cliffs

☐ marshes ☐ other: _____

_____

B. ENTRY OBJECTIVES

The objective of the initial entry to the contaminated area is to: (describe actions, tasks to be accomplished; i.e., identify contaminated soil, monitor conditions, etc. Objectives should be developed daily, and described during pre-entry safety brief)

C. ONSITE ORGANIZATION AND COORDINATION

The following personnel are designated to carry out the stated job functions on site. (Note: One person may carry out more than one job function)

OSC:

OSC REP:

SSC:

SITE SAFETY OFFICER:

PUBLIC INFORMATION OFFICER:

FEDERAL AGENCY REPS:

STATE AGENCY REPS:

LOCAL AGENCY REPS:

CONTRACTOR(S):

D. ONSITE CONTROL

_____ is the Site Safety Officer and is directly responsible to the OSC Rep for safety recommendations on scene.

Control boundaries have been established, and the contaminated area has been designated as follows:

These boundaries are identified by:

Anyone entering the site, or associated control zones, shall report to the Site Safety Officer.

No person shall enter a site without subscribing to this or another approved Site Safety and Health plan.

No person shall enter a site without adequate training in hazardous waste operations safety and health. The level of training required will be based on work assignment and applicable hazardous conditions.

SEE SITE MAP(S) IN APPENDIX C.

E. HAZARD EVALUATION

Hazardous chemicals (include whichever apply).

a. Benzene-containing products. Crude oil, gasoline, military JP4, commercial Jet B, aviation gasoline, gas oils, naphtha.

1) Composed of an indefinite petroleum distillate mixture. The content typically includes benzene, toluene, xylenes, naphthalenes, and polyaromatic hydrocarbons (PAHs). The concentration of these products will vary widely depending on the source of the oil, weathering, and aging.

2) Hazard description. May cause dermatitis by skin contact; nausea by inhalation; and eye irritation by contact. Benzene is a blood hematologic toxin (affects the blood and blood forming organs), and is a carcinogen. The most important potential benzene, toluene, or xylene hazard is in poorly ventilated areas (such as pits or under docks, or around freshly spilled oil. Benzo(a)pyrene is a skin contact hazard and potentially may cause skin cancer with chronic skin contact. As oil weathers and ages, benzo(a)pyrene becomes more concentrated because it evaporates much slower than other chemicals in the mixture.

3) Basic precautions. Stay away from, or upwind of, fresh oil spills, wear chemical resistant clothing as necessary to protect against skin or eye contact, periodically change protective clothing that has oil on it, immediately change clothing that is showing evidence of oil penetrating to your skin, and wash skin with soap and water when changing into street clothing, before eating/drinking, or when exiting to a contamination reduction zone. Flush eyes width water if oil gets in them. If ingested do not induce vomiting- contact a physician. Urine phenol should be tested as soon as possible (and not latter than 72 hours after exposure) if there is a suspected overexposure to benzene. if urinary phenol values are above acceptable levels, individuals must be removed from areas of potential benzene exposure until values return to normal.

b. Non-benzene Products. Kerosene, diesel fuels, fuel oils, Military JP5, commercial JET A.

1) Composed of an indefinite petroleum distillate content typically including polyaromatic hydrocarbons (PAHs). The concentration of these products will vary widely depending on the source of the oil, weathering, and aging.

2) Hazard description. May cause dermatitis by skin contact; nausea by inhalation, and eye irritation by contact. Benzo(a)pyrene is a skin contact hazard and potentially may cause skin cancer with chronic skin contact.

3) Basic precautions. Wear chemical resistant clothing as necessary to protect against skin or eye contact, periodically change protective clothing that has oil on

it; immediately change clothing that is showing evidence of oil penetrating to your skin; and wash skin with soap and water when changing into street clothing, before eating, drinking, or when exiting to a contamination reduction zone. Flush eyes with water if oil gets in them. If ingested, do not induce vomiting- contact a physician.

c. Hydrogen sulfide

d. Bioremediation agents. See attached MSDS when these products are in use.

e. Dispersants. See attached MSDS when these products are in use.

2. Other hazards (check all that apply).

☐ Fires. Each restriction zone and associated contamination reduction zone shall haze at least one of each of the following:
- fully charged Class A fire extinguisher for ordinary fires,
- fully charged Class B fire extinguisher for liquid fires, and
- hand held fog horn to alert personnel

☐ Slippery surfaces. All personnel in the work area shall wear rubber safety boots with steel toe/shank and textured bottoms. Boat crews may substitute clean deck shoes with textured soles (free of oil on cloth/leather uppers, and no oil observable inside the shoes).

☐ Inadequate lighting. Portable lighting shall be provided for dark areas or work after sunset.

☐ Work near water. All personnel working in boats, on docks, or generally within 10 feet of water deeper than 3 feet shall wear Coast Guard approved personal flotation devices (PFDS)

☐ Heat stress. The Site Safety Officer (SSO) shall make heat stress determinations throughout the day. If it is determined that a heat stress hazard exists, an alert shall be passed to all teams to implement mandatory rest periods. The SSO shall generally be guided by ACGIH guidelines in determining a work/rest regimen. Fluids shall be available at all times and encouraged during rest periods.

☐ Cold stress.

1) If a cold stress hazard exists, an alert shall be passed to all teams to implement mandatory rest/warm-up periods. The SSO shall be guided by the ACGIH guidelines in determining work/warm-up periods.
2) For prolonged cold weather operations, warming shelters shall be provided for rest periods. Warm and/or sweat fluids shall also be available during rest periods. Drinking coffee should be discouraged.

3) For prolonged water temperatures below 59 ^{0} F, or a combined water and air temperature less than 100 ^{0} F, exposure suits shall be worn by personnel in small boats or aircraft over water.

☐ High noise levels. Hearing protection shall be used in high noise areas (exceeding 84 dBA). Locations likely to exceed this level included: the vicinity of vac-trucks and heavy equipment; bid hazing stations; and generally where noise levels require personnel to raise their voices to be heard.

☐ Poisonous insects (mosquitoes, ticks). All personnel shall be provided with long sleeved clothing and insect repellent in designated areas.

☐ Poisonous snakes. All personnel working in designated areas shall wear snake proof leggings or hip high rubber boots. Snake bite kits shall be kept with first aid kits in these areas.

☐ Poisonous plants (poison ivy, oak, and sumac). Long sleeved clothing shall be worn in areas designated to contain these plants. Areas known to contain these plants shall be marked/posted to the extent possible at the site. Emergency medical personnel shall prescribe first aid treatments to be carried in these areas.

☐ Electrical hazards. Electrical power lines (buried or overhead) shall be marked on applicable project maps, and physically marked in the field as necessary.

☐ Trip hazards. Open manholes, pits, trenches, or similar hazards shall be noted on project maps, and marked with placarded barricades.

☐ Carbon monoxide. Vehicle/equipment operators shall ensure that personnel are not allowed to linger or work near exhaust pipes.

☐ Falling objects. Hard hat areas determined by site survey shall be noted on project maps.

☐ UV light exposure. Sunscreens of protection factor 15 or greater, and UV tinted safety glasses shall be made available for response personnel as needed to prevent overexposure to UV light.

F. PERSONAL PROTECTIVE EQUIPMENT

Based on evaluation of potential hazards, the following levels of personal protection have been designated for the applicable work areas or tasks:

Location	Job Function					Level of Protection
Contamination Zone	oil recovery	A	B	C	D	Other
	salvage ops	A	B	C	D	Other
	bioremediation	A	B	C	D	Other
	high pressure wash	A	B	C	D	Other
	sampling	A	B	C	D	Other
	dispersant application	A	B	C	D	Other
	others	A	B	C	D	Other
Contamination Reduction Zone	all personnel	A	B	C	D	Other
Support Zone	all personnel	A	B	C	D	Other

SEE APPENDIX B FOR DESCRIPTION OF PPE ENSEMBLES.

NO CHANGES TO THE SPECIFIED LEVELS OF PROTECTION SHALL BE MADE WITHOUT THE APPROVAL OF THE SITE SAFETY OFFICER.

G. COMMUNICATION PROCEDURES

Channel ___ VHF-FM has been designated as the radio frequency for personnel on site.

Cellular phone number of Command Post:

Cellular phone number of Site Safety Officer:

Other cellular phone numbers:

H. SITE SAFETY AND HEALTH PLAN

Emergency Medical Care.

_____ and _____ are the qualified EMTs on site.

_____Hospital, at (address) (phone) , is located minutes from this location.

Doctor _____ was contacted at time and briefed on the situation, the potential hazards, and the substances involved. A map of alternative routes to this facility is available at the Command Post. Local ambulance service is available from _____at _____(Phone) . Their response time is minutes. Whenever possible, arrangements should be made for onsite standby.

First aid.
First aid equipment is available on site at the following locations:

First-aid kit _____

Emergency eye wash _____

Emergency shower _____

other _____

_____

List of emergency phone numbers:

Agency/Facility	Phone	Contact
Policy		
Fire		
Hospital		
Public Health Advisor		

Environmental Monitoring

The following environmental monitoring instruments shall be used on site at the specified intervals:

Combustible Gas Indicator continuous/hourly/daily/other
0 2 Monitor continuous/hourly/daily/other
Colorimetric Tubes
continuous/hourly/daily/other

hNU/OVA continuous/hourly/daily/other
Other continuous/hourly/daily/other

Notes:

Emergency Procedures. The following standard emergency procedures will be followed by onsite personnel. The Site Safety Officer shall be notified of any on site emergencies and be responsible for ensuring that the appropriate procedures are followed.

Personnel injury in the Contaminated Area: Upon notification of an injury or chemical overexposure in the contaminated area, the OSC Rep and Site Safety Officer will assess the nature of the injury or overexposure. If the cause of the injury or overexposure, or the loss of the injured person does not affect the performance of site personnel, operations may continue. In the case of an injury, the on site EMT should initiate the appropriate first aid, and contact should be made for an ambulance and with the designated medical facility if required. If an overexposure to a chemical agent is suspected to have occurred, the overexposed individual should be taken as soon as possible to a Coast Guard or contracted clinic for biological monitoring. In case of severe overexposures, an ambulance and the designated medical facility should be contacted.
Fire /Explosion: Upon notification of a fire or explosion on site, the designated emergency signal, describe signal should be sounded and all site personnel assembled at _____ (predesignated location). The fire department shall be alerted and all personnel moved to a safe distance from the involved area.

Personal Protective Equipment Failure: If any site worker experiences a failure or alteration of protective equipment that affects the protection factor, that person and his/her buddy shall immediately leave the contaminated area. Reentry shall not be permitted until the equipment has been repaired or replaced.

Other Equipment Failure: If any other equipment on site f ails to operate properly, the OSC Rep and Site Safety Officer shall be notified and then determine the effect of this failure on continuing operations onsite. If the failure affects the safety of personnel or prevents completion of assigned tasking, all personnel shall leave the contaminated area until the situation is evaluated and appropriate actions taken.

In all situations, when an onsite emergency results in evacuation of the contaminated, area, personnel shall not reenter until:
a. the conditions resulting in the emergency have been corrected.
b. the hazards have been reassessed.
C. the site safety plan has been reviewed.
d. site personnel have been briefed on any changes in the site safety plan.

Personal Monitoring

The following personal monitoring will be in effect on site: (sampling pumps, air monitors, passive OV badges) _____

_____

The expected air temperature will be _____ºF. If it is determined that heat stress monitoring is required (mandatory if over 70ºF) the following procedures shall be followed: (describe procedures in effect, i.e., monitoring body temperature, body weight, pulse rate)

_____

_____

_____

Appendix A: Record Sheet

All site personnel have read the above plan and are familiar with its provisions.

	Name	Signature
Site Safety Officer		
OSC Rep		
Other site personnel		

Appendix B. PPE Ensembles

Level D

- ☐ cloth coveralls
  - OPTION: long sleeved coveralls (poison plant areas)
  - OPTION: short sleeved coveralls (heat stress alert)
- ☐ rubber steel toe/shank safety boots with textured bottoms
  - OPTION: hip boots (snake area)
  - OPTION: deck shoes with textured soles (boat ops)
- ☐ rubber gloves
  - OPTION: leather gloves (no oil contact)
- ☐ rubber rain pants
  - OPTION: disposable pants (light oiling) rubber hooded rain jacket
  - OPTION: disposable jacket (light oiling)
- ☐ rubber apron
  - OPTION: disposable apron (light oiling)
- ☐ PFD (on/near water)
- ☐ Quart bottle to carry fluids (heat stress alert)
- ☐ Hearing protection (high noise areas)
- ☐ Insect repellant (poisonous insect area)
- ☐ Hard hat (overhead hazards)
- ☐ Safety glasses
  - OPTION: tinted lenses (sunlight)
- ☐ Sunscreen

Level C

- ☐ Level D items
- ☐ Rubber gloves (mandatory)
- ☐ Plastic rain pants (mandatory)
  - OPTION: disposable pants if oiling/contamination light)
- ☐ Plastic hooded rain jacket (mandatory)

☐ Air purifying respirator (mandatory)
- ☐ full face respirator
- ☐ half mask respirator
  - ☐ organic vapor cartridge
  - ☐ dust, fume, mist cartridge
  - ☐ combination OV/particulate cartridge

APPPENDIX C: Site map(s)

9400 Area Plans

9410 Gasoline Spill Response

9411 General

Gasoline is one of the highest volume products transported in the Maine & New Hampshire Captain of the Port Zone. The nature of a gasoline spill response is extremely diverse in comparison to a response to a spill of oil. A discharge of gasoline will present responders with different challenges and response options than a response to another type of product. Strategies must then be stated in a general sense and outline concerns for all releases. This section will outline considerations that must be addressed for all incidences and describe the Operational organization.

In dealing with such a spill, the priorities must be outlined. In the case of a gasoline spill the foremost priority will be the safety of the public and responders. The second priority is the protection of the environment. A gasoline spill can be very dangerous and both responders and the general public need to be aware of how hazardous a situation this may be. Both Maine and New Hampshire have areas that are environmentally sensitive. During a spill, these areas need to be protected from the gasoline, but after safety of life has been protected.

9412 Operation and Strategies (general)

9412.11 Safety of Life and Health

Site Safety Officer (SSO) - The OSC and Site Safety Officer must be established prior to any response operations involving gasoline spills. The SSO is responsible for ensuring the safety of the public as well as the responders.

Air monitoring, area and personal, will be performed prior to site entry as well as periodically during the incident, to assure site personnel are not over-exposed to hazardous substances. Instruments that may be utilized include combustible gas indicators (CGI's), portable gas chromatographs (GC's), photo-ionization detectors (PID's), detector tubes, organic vapor monitors (OVM's), personal air sampling pumps, personal air monitoring badges and tubes, and radiation detectors.

A hazard analysis shall include but not be limited to: ppm levels, lower explosive limits, benzene levels, and fire/explosion hazards.

LEL – 14,000 ppm (evacuate at 20% of the LEL on an open site; evacuate at 10% of the LEL in a confined space).
UEL – 76,000 ppm
PEL – 300 ppm
TLV – 300 ppm
Odor threshold – 5 ppm

Benzene - a clear, colorless, highly flammable liquid with an odor threshold of 1.5-5.0 ppm. Inhalation exposure can cause acute symptoms such as fatigue, dizziness, dryness of the mouth, nausea and shortness of breath.

Exposure route: Inhalation, absorption, ingestion, eye contact
Odor description: Aromatic sweet odor
Acute symptoms: Irritation to eye, nose, throat, dizziness, headache, nausea, fatigue, stagger
Ion potential: 9.24 eV
Odor threshold: 119 ppm
Action level: 0.5 ppm
PEL/TWA: 1 ppm
STEL: 6 ppm
IDLH limit: 500 ppm

At site, personnel shall stay up wind and keep out of low areas

Cold weather will slow the rate of evaporation.

Most MSDS for gasoline recommend the following PPE:

- Splash proof or dust resistant goggles
- Impervious gloves (Use of barrier cream recommended)
- Respirator protection would be determined by air monitoring
- Coveralls or other protective clothing (i.e., exposure suits in winter etc.)

The exact PPE shall be determined by considering the following:

- Is there splash potential?
- Is the concentration of gasoline in air above the action level?
- Is there potential for high levels of vapor in certain work areas or performing certain tasks?
- Is there potential for falls from heights or into a body of water?

PPE shall be upgraded or downgrading according to the following guidelines:

- Degree of hazard increasing or decreasing.
- Task changes.
- Environmental temperature changes.
- Symptoms occur from inhaling gasoline vapors.
- Additional hazards are found.

9412.12 Site Control

Public safety will have priority over environmental protection in the strategic response and deployment of resources.

Ignition sources must be removed, secured or protected.

The spill area must be isolated.

A decision must be made to either evacuate the public, or keep the public indoors. Roads will be closed by local policy and bridges by USCG 1st District. Local emergency personnel would conduct public evacuation. The COTP will establish safety zones in navigable waters and/or close port.

9412.13 Pollution Response Action

The Area Committee's policy is to not implement containment booming of a gasoline discharge. (An exception would be the containment booming of debris associated with the spill – degraded Styrofoam from floating docks, etc.) Containment booming will increase the concentration of vapors and increase the probability of creating an explosive atmosphere. However, it may be considered in some circumstances as determined by the OSC.

The evolution of action during a gasoline spill incident response should follow five basic steps. The steps are Recognition and Notification, Evaluation and Control. Remediation and Conclusion have been assigened to separate sections for this document. Each of these steps needs to be addressed and each step will need to be tailored to the specific incident.

Recognition and Notification- This step involves the identification of gasoline, the associated hazards, and the degree of hazard. The reporting agency or person will normally conduct this initial step. THIS STEP DOES NOT INCLUDE RECON. Recognition should be general in nature and include the nature of the incident (e.g., overturned rail car in a river) and that gasoline is involved (e.g., placard UN# 1203). Once on-scene, the OSC shall identify what hazards may exist (e.g., Physical hazard of the tank, chemical hazards of gasoline, evacuation call). The OSC shall establish a "Hot Zone," ensure all required agencies and persons are notified, and designate the personnel or agency to make the initial site recognizance and the level of PPE for those responders.

Evaluation- This step includes assessing the risks that the situation poses to the public, response personnel, and the environment. This is the step in which initial entry or approach to the site occurs. Response personnel will use analytical techniques to determine the level of contamination and identify the existence of any hazards. The Scientific Support Team will use the information gathered by on-site personnel to identify the level of risk to the public, responders, and the environment. The OSC will re-evaluate the evacuation policy and set PPE limits for all responders.

Reconnaissance of the spill shall include: source of the spill, the extent of the area affected by the spill, and the amount spilled. Personnel tasked with reconnaissance shall

be provided the proper air monitoring equipment and have been properly trained to utilize the equipment.

Control- This step includes identifying methods to reduce or eliminate the hazard. In reality, this step and the Evaluation step could happen simultaneously or in reverse order. This step is the physical work of shoring, diking, berming, adsorption of material, stabilization of physical hazards, preventive hazing of wildlife, etc. Public safety will have priority over environmental protection in the strategic response and deployment of resources.

Methods to be utilized:

- Evacuation/access restriction – A decision must be made to either evacuate the public, or keep the public indoors.
- Dispersing – using water from fire hoses to push gasoline away from the shore.
- Suppression – applying AFFF on to gasoline to suppress the vapors.
- Exclusion booming – to protect water intakes, prevent gasoline from drifting under the docks and protect environmentally sensitive areas.
- Evaporation – allow gasoline to evaporate so explosive vapors dissipate.
- Containment booming – not the policy of the Area Committee. Containment booming will increase the concentration of vapors and can increase the probability of creating an explosive atmosphere. However, it may be considered in some circumstances as determined by the OSC.
- Isolation – People and ignition sources must be kept away from the spill.

Strategies most commonly implemented include:

- Continuous air monitoring.
- Monitoring of the harbor for slicks
- Monitoring of wharf areas to locate areas of pooling - this will requiring flushing with hoses
    - Staying in advance of spill - evacuate/remove equipment/protect (as determined) possible down wind hazard areas
- Dispersion – using water from fire hoses to push gasoline away from shore.
- Suppression – applying AFFF to gasoline to suppress vapors.
- Exclusion/protection booming – To protect water intakes, ignition sources, prevent gasoline from drifting under docks and to implement geographic response plans that protect environmentally sensitive areas.
- Evaporation – Allowing gasoline to evaporate so explosive vapors dissipate and the slick naturally disperses and degrades.

9412.14 Remediation

Remediation is the long term clean up of a site and may involve such activities as soil removal, dredging, and ground water clean up or other long-term projects. The OSC will ensure the site has been properly cleaned up and taken over by a remediation agency or contractor.

Immediate remediation methods for gasoline spilled:

In open water, allow product to spread out and explosive vapors evaporate. Booming shall be limited to preventing product from drifting under piers, protect water intakes and divert from the public and sensitive areas. Materials contaminated by spill (i.e. foam flotation) shall be sent out for analysis to be determined if it needs to be treated as a hazardous material.

In cold weather ice conditions, where gasoline is trapped beneath ice, possible methods:
- Collect contaminated ice for proper handling and disposal.
- Break up ice and allow evaporation.

9412.15 Conclusion

Once the OSC has decided that the site is clean to a ACARP level, that a hazard no longer exists, or that a proper remediation is under way, they will conclude the incident, ensure the proper funding and legal documentation is completed, and debrief the responders.

References:
- North American Emergency Response Guide
- NFPA 471
- NFPA 472
- Product MSDS

9413 Role of the Initial IC

The initial IC will be the Fire Department. They are responsible for fully briefing incoming members of the UC on the status of the incident response. The Fire Department also takes the lead on control of the gasoline spills (this information can be summarized in NIIMS ICS form 201). Other UC members representing the Federal/State/RP each have interests that shall be addressed when the when the safety concerns have been addressed.

9414 Check Off Sheets

The following check-off lists are provided for any agency/person responding to a gasoline spill incident pursuant to this plan. They are general in nature, and should only be used as a guideline to actions taken. Each gasoline spill event is unique due to the environments that they may occur in.

9414.11 Notification of Gasoline Spill / Gasoline Release Check-Off List

INITIAL INFORMATION

Date/Time of Report: _____

Received By: _____

Notified By: _____

Telephone No.: _____ Fax No.: _____

Location of Release: _____

Material Spilled: _____

Date/ Time Spilled: _____

Nature of Release: Air / Water / Land

Quantity of Material Spilled: _____ Quantity in Container: _____

Description of Incident: _____

Water Body Impacted: _____

Source/ Responsible Party: _____

Cause/ Operation in Progress: _____

Actions Taken: _____

_____

Weather On Scene: _____

Agencies Already Notified: _____

Resources On Scene: _____

Incident Commander: _____ Telephone No.: _____

NOTIFICATIONS

- Notify Local Fire Department
- Notify NRC……. 1-800-424-8802
- Notify Coast Guard…….. 207-780-3251
- Notify EPA……. 617-223-7265
- Notify State EMA:
  - Maine EMA……. 207-287-4080
  - NH OEM (State Police)……. 1-800-525-5555
- Notify County EMA
- Notify New Hampshire DES……. 613-271-3636 1-800-482-0777
- Notify Maine DEP…….

9414.12 First Response Check-Off List

This check-off list is meant to be a guide for the First Responder to a gasoline spill incident. DO NOT under any circumstances enter a contaminated area unless trained and equipped to do so with proper support and DECON preparations made. Remember you may be the only "eyes and ears" the Unified Command has on scene. Write everything you observe down.

1. POSITION YOURSELF

- θ Locate upwind, upstream, uphill, or up-current of the incident.
- θ Locate yourself where you can see the incident.

2. OBSERVE

- θ Ensure notifications are made (Use the Section 3564.1, Notification Check-off List).
- θ Identify the container type.
- θ Identify any placards, labels, or packaging (Use DOT Emergency Response Guide).
- θ Observe any effects on people, animals, vegetation, and environment in the area surrounding the incident.
- θ Identify the wind direction and weather (stay upwind).
- θ Identify the distance and direction to nearby dwellings or places of business.
- θ Identify the distance to the nearest surface water (if on land).
- θ Identify current speed and direction and sea state (if afloat).
- θ Identify any vapor or cloud including size and direction of travel.

3. ACT

- θ Establish a safety area (Use DOT Emergency Response Guide).
- θ DO NOT ENTER any contaminated area unless trained and equipped for entry and Incident Commander is on scene, EVEN TO RESCUE OTHERS.
- θ Render First Aid to victims outside the contaminated area
- θ Establish communications with UC or Incident Commander
- θ Brief the Incident Commander or Command representative when they arrive on scene

9420 Planning Scenarios

9421 Average Most Probable Discharge Scenario

References:
a) 33 U.S. Code 1321, Federal Water Pollution Control Act, as amended
b) COMDTNOTE 16471 dated 30SEP92
c) NVIC 8-92, Interim Guidelines for the Development and Review of Vessel Response Plans
d) NVIC 7-92, Interim Guidelines for the Development and Review of Response Plans for Marine Transportation Related Facilities, Including Deepwater Ports

Reference (a) requires that, when implemented in conjunction with the National Contingency Plan, each Area Contingency Plan "be adequate to remove a worst case discharge, and to mitigate or prevent substantial threat of such a discharge, from a vessel, offshore facility, or onshore facility operating in or near the area." To this end, each Area Committee is tasked with developing three different spill scenarios to aid in response planning. The scenario below addresses the average most probable spill which, based on reference (c), is the average reported spill size for the port region indicated and disregards extreme incidents which may skew the results.

The intent of scenario development is to identify the response resources and procedures that will provide or a successful spill response. In addition, scenario development may identify shortfalls within the area that could negatively impact a spill response effort. The scenario below addresses the immediate response initiatives that could be mounted following an oil spill incident. The scenario does not address each and every eventuality that may develop during an oil spill; most notably, there is no discussion of wildlife rehabilitation, volunteer coordination, etc. These issues are either dealt with in other sections of this plan, or will be developed on a case by case basis.

9421.11 Portsmouth Port Region Scenario

The automatic bilge pump on a moored fishing vessel discharges an estimated 55 gallons of oily water into the Piscataqua River, which is running faster and higher than normal, due to the spring thaw and heavy rains. Incident occurred at 0700 on a weekday.

Weather
- Wind: N/NE 20-25 knots
- Air Temp: 35 degrees Fahrenheit
- Water Temp: 45 degrees Fahrenheit
- Precipitation: Moderate rain
- Visibility: less than 1 mile

Tide/Current
Ebb conditions. Incident occurred at height of tidal current. Current is 5 knots.

Calculations
Using the tables and equations provided in Oily Water, Group I, references (c) and (d) as planning factors the

following recovery volumes are derived:

	Non-Persistent
Spill Volume	55 gal
Emulsification Factor	1.0
Planned % on-water recovery	20%
Planned % onshore recovery	10%

Planning Volumes:
On-water recovery = 55 x 1.0 x .2 = 11 gal
Onshore recovery = 55 x 1.0 x .1 = 5.5 gal

Actions Taken

NOTIFICATION AND FIRST RESPONSE. The initial notification of the spill would be received at Marine Safety Office (MSO) Portland from a concerned boater who witnessed the discharge. MSO Portland would dispatch a pollution investigation team to the scene from MSFO Portsmouth, and would notify the New Hampshire Department of Environmental Services (NH DES). In addition, CG Station Portsmouth would be notified to determine if a Station boat asset was in the area of the incident, and/or whether they could send a boat asset to the scene.

RESPONSE TIMES. It will take MSO Portland's investigation team approximately 1 hour to arrive on scene. The MSFO Portsmouth can be on scene within 15 minutes. The NH DES representative(s) could arrive at approximately the same time.

CLEANUP ACTIONS. The responsible party would be identified and contacted; however, any rapid cleanup would be an effort undertaken by NH DES or Coast Guard. Although the swift moving water and the rapid dissipation of the spilled material would make spill cleanup difficult, every attempt to recover the spilled material would be undertaken. In the event the spilled material collected in a protected area, all necessary efforts to clean up the material would be undertaken, including the use of a vacuum truck. The responsible party would be informed of their liability through the issuance of a Letter of Notification of Federal Interest from the MSO Portland investigation team. The responsible party would be instructed to secure the automatic bilge pump and make repairs necessary to prevent further spills.

RESOURCE NEEDS.

- 1 bale sorbent pads
- Plastic bags for sorbent disposal
- 1-3 response personnel
- 1 vacuum truck (possible)
- 1 skimmer head

SENSITIVE AREA CONSIDERATIONS. None

SHORTFALLS. None

9421.12 Portland Port Region Scenario

While fueling a fishing vessel at a fish pier in Portland Harbor, the person-in-charge misreads the fill gauge and overfills the fuel tank causing an estimated 45 gallons of diesel fuel to spill from a vent into the Fore River. Incident occurred at 0800 on a weekday.

Weather

- Wind: N/NE 15-20 knots
- Air Temp: 35 degrees Fahrenheit
- Water Temp: 40 degrees Fahrenheit
- Precipitation: None
- Visibility: less than a mile

Tide/Current

Ebb conditions. Incident occurred at height of tidal current. Current is 2 knots.

Calculations

Using the tables and equations provided in references (c) and (d) as planning factors the following recovery volumes are derived:

Diesel Fuel, Group III, Persistent

Spill Volume	45 gal
Emulsification Factor	2.0
Planned % on-water recovery	50%
Planned % onshore recovery	50%

Planning Volumes:

On-water recovery = 45 x 2.0 x .5 = 45 gal
Onshore recovery = 45 x 2.0 x .5 = 45 gal

Actions Taken:

NOTIFICATION AND FIRST RESPONSE. The initial notification of the spill would be received at Marine Safety Office (MSO) Portland from an employee of the fish pier who witnessed the event. MSO Portland would dispatch a pollution investigation team to the scene, and would notify the Maine Department of Environmental Protection (ME DEP).

RESPONSE TIMES. It will take the MSO Portland investigation team approximately 15 minutes to arrive on scene. The ME DEP representative(s) could arrive within 30 minutes.

CLEANUP ACTIONS. The responsible party would be expected to identify and arrange for response resources. In the event the responsible party failed to adequately respond, MSO Portland would mount the necessary response effort. Containment boom and sorbents would be deployed by the responsible party or an oil spill response organization. Due to the time required to deploy boom, some of the spilled diesel fuel would drift down river, escaping containment or collection. The utility of vacuum equipment to recover the spilled material would be evaluated, and vacuum equipment would be utilized as appropriate. The responsible party would be informed of their liability through the issuance of a Letter of Notification of Federal Interest from the MSO Portland

investigation team. The MSO Portland team would remain on scene to monitor the cleanup effort undertaken by the responsible party, and would complete the pollution investigation.

RESOURCE NEEDS.
- 2 - 4 response personnel
- 200 feet of 18/24-inch curtain boom
- anchors/hardware for boom deployment
- work boat and motor
- 1 bale sorbent pads
- hand tools
- plastic bags for sorbent disposal
- drum for disposal of plastic bags/sorbent
- vacuum truck (possible)
- skimmer head

SENSITIVE AREA CONSIDERATIONS. None

SHORTFALLS. None

9421.13 Penobscot Bay Port Region Scenario

While off-loading product from a tank barge to a facility in Bucksport, the transfer hose ruptures near the barge-side manifold. The transfer is immediately shut down, but not before an estimated 77 gallons of #6 oil spills into the Penobscot River.

Weather
- Wind: N/NE 15-20 knots
- Air Temp: 25 degrees Fahrenheit
- Water Temp: 32 degrees Fahrenheit
- Precipitation: Light snow
- Visibility: less than a mile

Tide/Current:
Ebb conditions. Incident occurred at height of tidal current. Current is 3 knots.

Calculations
Using the tables and equations provided in references (c) and (d) as planning factors the following recovery volumes are derived:

#6 Oil, Group IV,

	Persistent
Spill Volume	77 gal
Emulsification Factor	1.4
Planned % on-water recovery	50%
Planned % onshore recovery	70%

Planning Volumes:
On-water recovery = 77 x 1.4 x .5 = 53.9 gal

Onshore recovery = 77 x 1.4 x .7 = 75.46 gal

Actions Taken

NOTIFICATION AND FIRST RESPONSE. The initial notification of the spill would be received at Marine Safety Office (MSO) Portland from a facility employee who witnessed the event. MSO Portland would dispatch a pollution investigation team to the scene from MSFO Bucksport, and would notify the Maine Department of Environmental Protection (ME DEP)

RESPONSE TIMES. It will take the MSO Portland detached duty team located in Bucksport less than 40 minutes to arrive on scene, depending on which area of the Bay they are responding to. The ME DEP representative(s) could also arrive within 1 hour.

CLEANUP ACTIONS. The responsible party would be expected to identify and arrange for response resources. In the event the responsible party failed to adequately respond, MSO Portland would mount the necessary response effort. Containment boom and sorbents would be deployed by the responsible party or an oil spill response organization. Due to the time required to deploy boom, some of the spilled product would drift down river, escaping containment or collection. The utility of vacuum equipment to recover the spilled material would be evaluated, and vacuum equipment would be utilized as appropriate. The responsible party would be informed of their liability through the issuance of a Letter of Notification of Federal Interest from the MSO Portland investigation team. The MSO Portland team would remain on scene to monitor the cleanup effort undertaken by the responsible party, or would direct the federal effort, and would complete the pollution investigation.

RESOURCE NEEDS

- 2 - 4 response personnel
- 200 feet of 18/24-inch curtain boom
- Anchors/hardware for boom deployment
- Work boat and motor
- 2 bales of sorbent pads
- Hand tools
- Plastic bags for sorbent disposal
- Drums for disposal of plastic
- Bags/sorbent, oiled materials, etc.
- Vacuum truck (possible)
- Skimmer head

SENSITIVE AREA CONSIDERATIONS. The sensitive areas for the Penobscot Bay Port region must be reviewed. If any sensitive sites appear to be threatened by the spill, the necessary protective response effort must be determined and deployed. The review of sensitive areas should include an assessment of the High Priority Sensitive Areas (see map of sensitive sites for the Penobscot Bay Port Region) and consultation with appropriate experts.

SHORTFALLS. None

9421.14 Eastport Port Region Scenario

While fueling at the Eastport Marina, a recreational boater overfills the fuel tank, spilling an estimated 7 gallons of gasoline into Eastport Harbor. Incident occurs at 0800 on a weekday.

Weather

- Wind: N/NE 20-25 knots
- Air Temp: 55 degrees Fahrenheit
- Water Temp: 45 degrees Fahrenheit
- Precipitation: Light rain
- Visibility: less than a mile

Tide/Current.
Ebb conditions. Incident occurred at height of tidal current. Current is 3 knots.

Calculations.
Using the tables and equations provided in references (c) and (d) as planning factors the following recovery volumes are derived:

	Gasoline, Group I Non-Persistent
Spill Volume	7 gal
Emulsification Factor	1.0
Planned % on-water recovery	20%
Planned % onshore recovery	10%

Planning Volumes:
On-water recovery = 7 x 1.0 x .2 = 1.4 gal
Onshore recovery = 7 x 1.0 x .1 = .7 gal

Actions Taken
NOTIFICATION AND FIRST RESPONSE. The initial notification of the spill would be received at Marine Safety Office (MSO) Portland from the responsible party. MSO Portland would notify MSFO Bucksport of the incident, and would request that personnel conduct a pollution investigation. MSO Portland would notify the Maine Department of Environmental Protection (ME DEP).

RESPONSE TIMES. It will take the MSFO Bucksport 3 hours to arrive in Eastport on scene. The ME DEP representative(s) could arrive within 3 to 4 hours.

CLEANUP ACTIONS. The responsible party would be expected to identify and arrange for response resources. In the event the responsible party failed to adequately respond, MSO Portland would mount the necessary response effort. An effective spill response effort would be difficult due to the rapid evaporation of the spilled material, and its migration with the surface water currents; however, every attempt would be made to recover the spilled material. The responsible party would be informed of their liability through the issuance of a Letter of Notification of Federal Interest from the SARDET Eastport personnel, acting on behalf of MSO Portland.

RESOURCE NEEDS.

- 1/2 bale of sorbent pads
- Plastic garbage bags
- Work boat

9422 Maximum Most Probable Discharge Scenarios

References:
a) 33 U.S. Code 1321, Federal Water Pollution Control Act, as amended
b) COMDTNOTE 16471 dated 30SEP92
c) NVIC 8-92, Interim Guidelines for the Development and Review of Vessel Response Plans
d) NVIC 7-92, Interim Guidelines for the Development and Review of Response Plans for Marine Transportation Related Facilities, Including Deepwater Ports I-II-1

9422.11 Portsmouth Port Region Scenario.

An incoming tank barge collides with Sarah Long Bridge, spilling an estimated 200,000 gallons of #2 oil. Incident occurred at 0700 on a weekday.

Weather

- Wind: N/NE 15-20 knots
- Air Temp: 35 degrees Fahrenheit
- Water Temp: 45 degrees Fahrenheit
- Precipitation: moderate rain
- Visibility: less than 1 mile
- Sea State: choppy

Tide/Current. - Slack low water. The river is transitioning to flood tide. Current will be approximately 4.5 knots.

Calculations. - Using the tables and equations provided in references (c) and (d) as planning factors the following recovery volumes are derived:

	#2 Fuel Oil, Group III Persistent
Spill Volume	200,000 gal
Emulsification Factor	2.0
Planned % on-water recovery	50%
Planned % onshore recovery	50%

Planning Volumes:
On-water recovery = 200,000 x 2.0 x .5 = 200,000 gal
Onshore recovery = 200,000 x 2.0 x .5 = 200,000 gal

Actions Taken.

NOTIFICATION AND FIRST RESPONSE. The initial notification of the spill would be received at Marine Safety Office (MSO) Portland from the agent representing the barge operator. MSO Portland would dispatch a pollution investigation team, including a marine inspector, to the scene from MSFO Portsmouth. Notifications would be made to the New Hampshire Department of Environmental Services (NH DES), and the Maine Department of Environmental Protection. In addition, all internal unit notifications would be made, consisting of Chief, Response and Planning Department, Chief, Prevention Department, Executive Officer, and Commanding Officer. The unit watch personnel would notify the Coast Guard First District Operations Center, Coast Guard Group Portland, Coast Guard Station Portsmouth, the National Strike Force Coordination Center, and the Environmental Protection Agency, Region I Operations Center. MSO personnel would attempt to contact the responsible party to determine what response efforts were being initiated. Through coordination with NH DES, and the responsible party, the Command Post would be established at the Seabrook Incident Field Office. MSO Portland representatives, including the Commanding Officer, or a designate, would proceed to the Command Post. It is at this site that the Unified Command would be established, comprised of at least the Federal On-Scene Coordinator (Captain of the Port Portland, ME, or an assigned representative, New Hampshire, Maine, and responsible party representatives. Ensure efforts are made to secure the source of spill.

RESPONSE TIMES. It will take the MSO Portland investigation team approximately 1.5 hours to arrive on scene. MSFO Portsmouth can be on scene in 15 minutes. The NH DES, and ME DEP representative(s) could arrive at approximately the same time.

- 0730 - Tide/current flooding, current at 3.5 knots
- 0740 - Additional tug on scene
- 0745 - USCG personnel from Station Portsmouth on scene aboard 41-foot UTB
- 0815 - MSO Portland pollution investigation team, including marine inspector, on scene. Booming operations are underway at spill site by responsible party hired contractor.
- 0830 - Piscataqua River Cooperative initiates mutual aid agreement, deploying skirt boom at pre-established highly sensitive areas (see Port Region Sensitive Areas), beginning with sites most near the incident. This effort is supported by NH DES equipment (containment boom and workboat) and personnel.
- 0850 - Unified Command established at Command Post.
- 0855 - MSO Portland response personnel arrive in Portsmouth with 20' response trailer, and are directed to deploy boom at Pierce Island. The team is also directed to position the 20' Portsmouth response trailer at Goat Island for boom deployment.
- 0900 - Assistance is requested from First Coast Guard District Response Advisory Team (DRAT), and First District Public Affairs
- 0910 - COTP Portland establishes Safety Zone on the Piscataqua River
- 0915 - Overflight requested from CG Air Station Cape Cod.
- 0920 - Coast Guard Atlantic Strike Team (AST) assistance is requested, this includes: ADAPTS pumping system, 2 small boats, and 5-10 personnel to support overall operation. Atlantic Strike Team ETA is 12 hours.
- 0925 - Second contractor hired to concentrate on up-river booming/recovery operations. Initial contractor to concentrate efforts at source point, and down-river operations. Second contractor ETA 2 hours.
- 0930 - NAVSUPSALV assistance is requested in the form of 10 36' skimmer vessel systems, and personnel to operate it. NAVSUPSALV ETA is 24 hours.

- 0935 - Spilled oil has progressed as far up-river as the Fuel Storage/SEA-3 terminals.
- 0940 - MSO Portland pollution investigation team states that divers hired by responsible party report damage to the subject barge to be limited to a destroyed fore peak tank, and a 17-foot gash, 2-feet wide, lengthwise along the starboard side of the #1 cargo tank, 10 feet below the waterline. No additional spilling is reported from any other cargo tanks.
- 0945 - CGC SHACKLE dispatched to scene to serve as OSC platform, ETA 10 hours.
- 0955 - HH-60 helicopter from CG AIRSTA CAPE COD arrives in Portsmouth, OSC and state officials depart on overflight.
- 1000 - CG First District support (DRAT, Public Affairs) arrives at Command Post. Joint Information Center established.
- 1005 - Subject barge directed to proceed to terminal.
- 1015 - NH and ME state archeologists/historians contacted for information re sites.
- 1020 - Press conference scheduled for 1130 at Newington Town Hall.
- 1030 - 20,000 feet of 18"/24"/36" skirt boom on scene or en route, with 10,000 additional feet expected on scene within 12 hours. 75 response/support personnel on scene or en route, with 75 additional personnel expected tomorrow
- 1045 - NH DES/ME Emergency Management Agency (MEMA) coordinate emergency management support through NH Emergency Management Agency, and established MEMA networks. This effort includes: coordinating sanitation services (port-a-potties), vehicular traffic control, community notification through established radio broadcasts, etc.
- 1100 - Overflight returns with report of heavy oil impact along New Hampshire side of river at several locations, and as far up-river as Northeast Petroleum. There is lesser impact at a few sites on the ME side of river, notably entrance to Spinney Creek, and Elliot Point. Natural collection sites have been identified and oil recovery equipment is dispatched to these sites.
- 1130 - Press conference conducted.
- 1300 - High slack water

CLEANUP ACTIONS. The bulk of oil recovered from the water would occur within the first 7 days of the response effort. A tremendous amount of shoreline impact is anticipated and cleanup efforts for this dimension of the incident are expected to last approximately 2 months. Coast Guard personnel would be on hand throughout the operation to document costs and monitor or direct actions taken.

RESOURCE NEEDS.

- 30,000' of 18"/24"/36" skirt boom
- 10 vacuum trucks/skimming heads
- 10 oil recovery platforms (vessels)
- 40 work boats
- 10 portable skimmers
- 15 portable tanks
- 300 laborers
- Hot-water/high-pressure washing equipment
- Ambient-water/low-pres. washing equipment
- Dump trucks
- Front-end loaders

SENSITIVE AREA CONSIDERATIONS. Refer to Geographic Response Plan for a discussion of sensitive area considerations for the Portsmouth area.

SHORTFALLS. None.

9422.12 Portland Port Region Scenario.

Incoming tank vessel runs aground on Witch Rock, rupturing a cargo tank, spilling an estimated 100,000 gallons of #6 oil. Incident occurred at 0700 on a weekday.

Weather.

- Wind: E/NE 20-25 knots
- Air Temp: 35 degrees Fahrenheit
- Water Temp: 45 degrees Fahrenheit
- Precipitation: Moderate rain
- Visibility: less than 1 mile
- Sea State: 4-8 foot seas

Tide/Current.
Slack low water, transitioning to flood tide. Current will be approximately 1.5 knots.

Calculations. - Using the tables and equations provided in references (d) and (e) as planning factors the following recovery volumes are derived:

	#6 Fuel Oil, Group IV Persistent
Spill Volume	100,000 gal
Emulsification Factor	1.4
Planned % on-water recovery	50%
Planned % onshore recovery	70%

Planning Volumes:
On-water recovery = 100,000 x 1.4 x .5 = 70,000 gal
Onshore recovery = 100,000 x 1.4 x .7 = 98,000 gal

Actions Taken.
NOTIFICATION AND FIRST RESPONSE. The initial notification of the spill would be received at Marine Safety Office (MSO) Portland from the agent representing the vessel operator. MSO Portland would dispatch a pollution investigation team, including a marine inspector, to the scene. The Maine Department of Environmental Protection (ME DEP) would be notified. In addition, all internal unit notifications would be made, consisting of Chief, Response and Planning Department, Chief, Prevention Department, Executive Officer, and Commanding Officer. The unit watch personnel would notify the Coast Guard First District Operations Center, Coast Guard Group Portland, the National Strike Force Coordination Center, and the Environmental Protection Agency, Region I Operations Center. MSO personnel would attempt to contact the responsible party to determine what response efforts were being initiated. Through coordination with ME DEP, and the responsible party, the Command Post would be established at the

determined site. It is at this site that the Unified Command would be established, comprised of at least the Federal On-Scene Coordinator (Captain of the Port Portland, ME), Maine representatives, and responsible party representatives.

RESPONSE TIMES. It will take the MSO Portland investigation team approximately 30 minutes to arrive on scene. The ME DEP representative(s) could arrive at approximately the same time, or transit to the scene with Coast Guard personnel.

- 0730 - Tide/current flooding, current at 1.5 knots.
- 0735 - Two harbor tugs at scene.
- 0740 - MSO Portland pollution investigation team, including marine inspector, on scene. Booming operations are underway at spill site by contractor hired by responsible party.
- 0815 - Unified Command established at Command Post, located at USCG MSO Portland.
- 0820 - COTP Portland establishes Safety Zone at spill site.
- 0825 - MSO pollution investigation team reports that the vessel is securely anchored 500 yards west of Witch Rock. The damage to the vessel appears to be limited to the number 1 starboard wing tank. The remaining cargo in the tank is being internally transferred to other cargo tanks. The estimated amount spilled is 100,000 gallons. The responsible party has a diver en route the scene to perform an assessment of the damage.
- 0830 - Assistance is requested from First Coast Guard District Response Advisory Team (DRAT), and First District Public Affairs. DRAT is asked to provide its boom and vessel of opportunity skimming system, with technical support personnel. Resources to arrive on scene within 5 hours.
- 0835 - Overflight requested from CG Air Station Cape Cod.
- 0840 - Coast Guard Atlantic Strike Team (AST) assistance is requested, this includes: ADAPTS pumping system, OWOCR system, small boats, communications equipment, and 10 personnel to support overall operation. AST ETA is 12 hours.
- 0850 - Second contractor hired to concentrate on highly sensitive area protective booming, and on-shore oil recovery operations. Consultation with Unified Command will determine protection priorities. Initial contractor to concentrate efforts at source point, and on water recovery. Second contractor ETA 1 hour.
- 0900 - Spilled oil has progressed west/southwest with the leading edge impacting Portland Head Light, Delano Park, Chimney Rock. Sheen has been reported near Cushing Island.
- 0915 - MSO Portland pollution investigation team states that divers hired by responsible party report that a 15-foot long, 2-foot wide gash has been opened in way of the number 1 starboard wing tank, along the bottom of the hull. The fore peak tank has been holed, with a gash 12 feet long, and 2 feet wide, along the bottom of the hull. No additional spilling is reported from any other cargo tanks. Oil is no longer spilling from the damaged cargo tank, and most of the remaining product has been internally shifted to other tanks.
- 0920 - CGC SHACKLE designated to serve as OSC platform.
- 0930 - Press conference scheduled for 1130 at Portland Naval Reserve Training Center.
- 1000 - 10,000 feet of 18"/24"/36" skirt boom on scene or en route, with 15,000 additional feet expected on scene within 12 hours. 75 response/support personnel on scenario en route, with 75 additional personnel expected tomorrow.

- 1015 - HH-60 helicopter from CG AIRSTA CAPE COD arrives in Portland, OSC and state officials depart on overflight.
- 1045 - ME Emergency Management Agency (MEMA) is asked to coordinate emergency management support through established MEMA networks. This effort includes: coordinating sanitation services (port-a-potties), vehicular traffic control, etc.
- 1050 - ME state archeologist contacted for information sites.
- 1100 - CG First District support personnel (DRAT, Public Affairs) arrives at Command Post. Joint Information Center established.
- 1105 - Overflight returns with report of heavy oil impact along coastline from Danford Cove to Trundy Point. Patchy oil and sheen is reported migrating into Portland Harbor as far as Spring Point. Collection sites have been identified and oil recovery resources are dispatched to these sites.
- 1130 - Press conference conducted.
- 1200 - Protective booming operations are complete at entrance to Spurwink River and the Scarborough River.
- 1300 - High slack water.

CLEANUP ACTIONS. The bulk of oil recovered from the water would occur within the first 4 days of the response effort. A tremendous amount of shoreline impact is anticipated and cleanup efforts for this dimension of the incident are expected to last approximately 2 months. Coast Guard personnel would be on hand throughout the operation to document costs and direct or monitor actions taken.

RESOURCE NEEDS.

- 25,000' of 18"/24"/36" skirt boom
- 10 vacuum trucks/skimming heads
- 5 oil recovery platforms (vessels)
- 30 work boats
- 10 portable skimmers
- 15 portable tanks
- 300 laborers
- Hot-water/high-pressure washing equipment
- Ambient-water/low-pres. washing equipment
- Dump trucks
- Front-end loaders

SENSITIVE AREA CONSIDERATIONS. Refer to the Geographic Response Plan for an overview of sensitive area considerations.

SHORTFALLS. None.

9422.13 Penobscot Bay Port Region Scenario.

An incoming tank ship runs aground on Odom Ledge, holing a cargo tank, spilling an estimated 100,000 gallons of #6 oil. Incident occurred at 0700 on a weekday.

Weather.

- Wind: E/NE 20-25 knots
- Air Temp: 35 degrees Fahrenheit

- Water Temp: 45 degrees Fahrenheit
- Precipitation: Moderate rain
- Visibility: less than 1 mile
- Sea State: choppy

Tide/Current.
Slack low water, transitioning to flood tide. Current will be approximately 2.5 knots.

Calculations. - Using the tables and equations provided in references (c) and (d) as planning factors the following recovery volumes are derived:

	#6 Fuel Oil, Group IV Persistent
Spill Volume	100,000 gal
Emulsification Factor	1.4
Planned % on-water recovery	50%
Planned % onshore recovery	70%

Planning Volumes:
On-water recovery = 100,000 x 1.4 x .5 = 70,000 gal
Onshore recovery = 100,000 x 1.4 x .7 = 98,000 gal

Actions Taken.
NOTIFICATION AND FIRST RESPONSE. The initial notification of the spill would be received at Marine Safety Office (MSO) Portland from the agent representing the vessel operator. MSO Portland would notify the Bucksport Detached Duty team, whereby a pollution investigation team would be sent to the scene. The Maine Department of Environmental Protection (ME DEP) would be notified. In addition, all internal unit notifications would be made, consisting of Chief, Response and Planning Department, Chief, Prevention Department, Executive Officer, and Commanding Officer. The unit watch personnel would notify the Coast Guard First District Operations Center, Coast Guard Group Southwest Harbor, Coast Guard Station Rockland, the National Strike Force Coordination Center, and the Environmental Protection Agency, Region I Operations Center. MSO personnel would attempt to contact the responsible party to determine what response efforts were being initiated. Through coordination with ME DEP, the Command Post would be established at either the Marine Safety Office, or at a site in Bucksport/Searsport. It is at this site that the Unified Command would be established, comprised of at least the Federal On-Scene Coordinator (Captain of the Port Portland, ME) or an assigned representative, Maine state representatives, and responsible party representatives.

RESPONSE TIMES. It will take the MSO Portland (MSFO Bucksport) investigation team less than 40 minutes to arrive on scene. The ME DEP representative(s) could arrive at approximately the same time.
- 0730 - Tide/current flooding, current at 1.5 knots.
- 0735 - Two harbor tugs at scene.
- 0810 - COTP Portland establishes Safety Zone at spill site.
- 0815 - MSFO pollution investigation team, including a marine inspector, on scene.
- 0820 - Maine DEP on scene.

- 0825 - Responsible party hired contractor en route scene to boom vessel and begin oil recovery operations.
- 0830 - MSO Portland personnel en route scene with Portland 20' response trailer. In addition, MSO personnel en route MSO's Bucksport response equipment storage facility to begin moving 1,000 feet of skirt boom to protect the entrance to the Marsh River. On water support to be provided by contractor.
- 0840 - MSO pollution investigation team reports that the vessel is securely anchored 1300 yards south of Odom Ledge. The damage to the vessel appears to be limited to the number 1 starboard wing tank. The remaining cargo in the tank is being internally transferred to other cargo tanks. The estimated amount spilled is 100,000 gallons. The responsible party has a diver en route the scene to perform an assessment of the damage.
- 0845 - At the request of the OSC, ME DEP mobilizes 7,800 feet of skirt boom, 3 workboats, and support personnel to the scene for protection of sensitive areas. ETA is 3 hours.
- 0850 - Assistance is requested from First Coast Guard District Response Advisory Team (DRAT), and First District Public Affairs. DRAT is asked to provide its boom and vessel of opportunity skimming system, with technical support personnel. Resources to arrive on scene within 5 hours.
- 0855 - NOAA SSC support is requested, ETA 4 hours.
- 0900 - Overflight requested from CG Air Station Cape Cod.
- 0910 - Coast Guard Atlantic Strike Team (AST) assistance is requested, this includes: ADAPTS pumping system, OWOCR system, small boats, communications equipment, and 10 personnel to support overall operation. AST ETA is 14 hours.
- 0920 - NAVSUPSALV assistance is requested in the form of 10 36' skimmer vessel systems, and personnel to operate it. NAVSUPSALV ETA is 24 hours.
- 0930 - Unified Command established at Field Command Post, located in Belfast.
- 0940 - Second contractor hired by OSC to concentrate on highly sensitive area protective booming, and on-shore oil recovery operations. Consultation with Unified Command will determine protection priorities. Initial contractor to concentrate efforts at source point, and on-water recovery. Second contractor ETA 3 hours.
- 0945 - Spilled oil has progressed north, with the leading edge impacting the western shore of Verona Island as far as Verona Park. Oil has also impacted Mill Cove, and south to Sandy Point.
- 0950 - ME state archeologist contacted for info on sites.
- 0955 - MSFO Bucksport pollution investigation team reports that divers hired by responsible party report that a 20-foot long, 2-foot wide gash has been opened in way of the number 1 starboard wing tank, along the bottom of the hull. The fore peak tank has been holed, with a gash 12 feet long, and 2 feet wide, along the bottom of the hull. No additional spilling is reported from any other cargo tanks. Oil is no longer spilling from the damaged cargo tank, and most of the remaining product has been internally shifted to other tanks.
- 1000 - CG Station Rockland 41-foot UTB designated to serve as OSC platform.
- 1015 - Press conference scheduled for 1130 at Field Command Post in Bucksport.
- 1030 - 15,000 feet of 18"/24"/36" skirt boom on scene or en route, with 25,000 additional feet expected on scene within 12-18 hours. 75 response/support personnel on scene or en route, with 75 additional personnel expected tomorrow.

- 1045 - HH-60 helicopter from CG AIRSTA CAPE COD arrives in Belfast, OSC and state officials depart on overflight.
- 1045 - ME Emergency Management Agency (MEMA) is asked to coordinate emergency management support through established MEMA networks. This effort includes: coordinating sanitation services (port-a-potties), vehicular traffic control, etc.
- 1115 - Overflight returns. Heavy oil impact is sighted along the western bank of the Penobscot River from Sandy Point to Fort Knox. Oil has also impacted parts of Verona Island, though not as bad as first reported, at several locations north to Verona Park.
- 1130 - Press conference held at Field Command Post.
- 1230 - CG First District support personnel (DRAT, Public Affairs) arrives at Command Post. Joint Information Center established.
- 1200 - Protective booming operations are complete at entrance to Marsh River, Eastern Channel, and Orland River.
- 1230 - Subject vessel is directed to proceed en route terminal for cargo offload.
- 1300 - High slack water

CLEANUP ACTIONS. The bulk of oil recovered from the water would occur within the first 4 days of the response effort. A tremendous amount of shoreline impact is anticipated and cleanup efforts for this dimension of the incident are expected to last approximately 2 months. Coast Guard personnel would be on hand throughout the operation to document costs and direct or monitor actions taken.

RESOURCE NEEDS.

- 40,000' of 18"/24"/36" skirt boom
- 15 vacuum trucks/skimming heads
- 10 oil recovery platforms (vessels)
- 30 work boats
- 15 portable skimmers
- 15 portable tanks
- 300 laborers
- Ambient-water flooding (deluge)
- Warm-water/high-pres. washing equipment
- Ambient-water/low-pres. washing equipment
- Dump trucks
- Front-end loaders

SENSITIVE AREA CONSIDERATIONS. For an overview of sensitive area considerations, refer Geographic Response Plan.

SHORTFALLS. None.

9422.14 Eastport Port Region Scenario.

Tank vessel transiting through Bay of Fundy, en route port of Saint John, suffers crack in cargo tank spilling an estimated 50,000 gallons of crude oil. An estimated 21,000 gallons of spilled product migrate into the Deer Island/Eastport area. Incident discovered at 0600 on a weekday.

Weather.

- Wind: E/NE 20-25 knots
- Air Temp: 35 degrees Fahrenheit
- Water Temp: 45 degrees Fahrenheit
- Precipitation: Moderate
- Visibility: less than 1 mile
- Sea State: 4-8 feet - Bay of Fundy & 2-4 feet - Friar Roads

Tide/Current.
Slack low water, transitioning to flood tide. Current will be approximately 2.5 knots through Head Harbor Passage/Friar Roads.

Calculations. - Using the tables and equations provided in references (c) and (d) as planning factors the following recovery volumes are derived:

	Crude Oil, Group IV Persistent
Spill Volume	21,000 gal
Emulsification Factor	1.4
Planned % on-water recovery	50%
Planned % onshore recovery	70%

Planning Volumes:
On-water recovery = 21,000 x 1.4 x .5 = 14,700 gal
Onshore recovery = 21,000 x 1.4 x .7 = 20,580 gal

Actions Taken
NOTIFICATION AND FIRST RESPONSE. The initial notification of the spill would be received at Marine Safety Office (MSO) Portland from the Canadian Coast Guard. MSO Portland would notify the Bucksport Detached Duty team, whereby a pollution investigation team would be sent to Eastport. The Maine Department of Environmental Protection (ME DEP) would be notified. In addition, all internal unit notifications would be made, consisting of Chief, Response and Planning Department, Chief, Prevention Department, Executive Officer, and Commanding Officer. The unit watch personnel would notify the Coast Guard First District Operations Center, Coast Guard Group Southwest Harbor, Coast Guard Station Jonesport, Coast Guard SARDET Eastport, the National Strike Force Coordination Center, and the Environmental Protection Agency, Region I Operations Center. The Canadian Coast Guard would be contacted to further discuss their response actions and to coordinate cooperative efforts. MSO personnel would attempt to contact the responsible party to determine what response efforts were being initiated. Through coordination with ME DEP, the Command Post would be established at a site in Eastport. It is at this site that the Unified Command would be established, comprised of at least the Federal On-Scene Coordinator (Captain of the Port Portland, ME) or assigned representative, Maine state representatives, and if possible, responsible party representatives.

RESPONSE TIMES. It will take the MSO Portland (MSFO Bucksport) investigation team approximately 3 hours to arrive on scene. The ME DEP representative(s) could arrive at approximately the same time.

- 0630 - Tide/current flooding, current at 2.5 knots.
- 0640 - Eastport Harbor Master notified of incident. Quoddy Spill Prevention Group to notify all aquaculturists in area of incident.
- 0645 - CG Group Southwest Harbor begins broadcasting Notice to Mariners re spill information.
- 0650 - MSO Portland requests that personnel from CG Stations Southwest Harbor, and Jonesport mobilize the attendant 10' pollution response trailers to Eastport. ETA 3 hours and 1 hour respectively. Teams will report to MSO Portland when on scene.
- 0700 - CG hired contractor begins mobilizing response resources to Eastport. ETA 6-8 hours.
- 0710 - ME DEP mobilizes response resources to Eastport. ETA 4-hours.
- 0730 - MSO Portland personnel en route Eastport with 20' pollution response trailer. ETA 7 hours.
- 0740 - MSO Portland request NOAA SSC support. ETA in Portland is 2.5 hours.
- 0750 - MSO Portland contacts Eastport Airport requesting permission to stage arriving response resources at airport. Permission granted.
- 0800 - Canadian Coast Guard reports that there is oil impact along Spruce Island, Sandy Island, Casco Bay Island, and Popes Island. Leading edge of slick at NE shore of Indian Island.
- 0805 - ME state archeologist contacted for information on sites.
- 0810 - Overflight requested from CG AIRSTA Cape Cod. ETA in Portland 1.5 hours.
- 0820 - Coast Guard Atlantic Strike Team (AST) assistance is requested, this includes: communications equipment, 5 personnel to support overall operation. AST ETA is 14 hours.
- 0825 - CG Station Joneport personnel report arrival in Eastport. Directed to remain at CG SARDET Eastport office for further direction.
- 0930 - MSO MSFO Bucksport personnel report arriving on scene. Directed to conduct shoreline assessment with support from SARDET Eastport boat assets. Informed that all response resources en route to Eastport are to be staged at Eastport Airport.
- 0945 - ME DEP personnel arrive on scene. MSO/DEP personnel to response resource staging at Eastport Airport.
- 1000 - CG AIRSTA overflight arrives Portland to pickup MSO OSC for overflight of spill
- 1030 - 15,000 feet of 18"/24"/36" skirt boom on scene or en route, with 15,000 additional feet expected on scene within 18 hours. 75 response/support personnel on scene or en route.
- 1115 - CG overflight lands at Eastport Airport. OSC reports slick movement headed for E/NE shore of Moose Island. There is some remaining waterborne oil, with heavy oil impact on Indian Island, and Doctors Cove to Deer Island Point. Shoreline impact is expected on Moose Island from Kendall Head to Estes Head.
- 1200 - High slack water.

CLEANUP ACTIONS. Very little on-water recovery of oil would be possible in this incident. A tremendous amount of shoreline impact is anticipated and cleanup efforts for this dimension of the incident are expected to last approximately 3 weeks. All attempts would be made to protect aquacultural sites and sensitive areas. This action would involve protective booming techniques, whose effectiveness would vary considerably based on surface water conditions and currents. Coast Guard personnel would be on hand throughout the operation to document costs and direct or monitor actions taken.

RESOURCE NEEDS.

- 30,000' of 18"/24"/36" skirt boom
- 7 vacuum trucks/skimming heads
- 5 oil recovery platforms (vessels)
- 15 work boats
- 10 portable skimmers
- 10 portable tanks
- 75 laborers
- Ambient-water flooding (deluge)
- Warm-water/high-pres. washing equipment
- Ambient-water/low-press. washing equipment
- Dump trucks
- Front-end loaders

SENSITIVE AREA CONSIDERATIONS. For an overview of sensitive area considerations refer the Geographic Response Plan

SHORTFALLS. None

9423 Worst Case Discharge Scenarios

References:
a) 33 U.S. Code 1321, Federal Water Pollution Control Act, as amended
b) COMDTNOTE 16471 dated 30SEP92
c) NVIC 8-92, Interim Guidelines for the Development and Review of Vessel Response Plans
d) NVIC 7-92, Interim Guidelines for the Development and Review of Response Plans for Marine Transportation Related Facilities, Including Deepwater Ports

9423.11 Portsmouth Port Region Scenario.

Incoming tank ship runs aground on Whaleback Reef, holing several cargo tanks. The vessel founders, spilling approximately 13,000,000 gallons of #6 oil. The incident occurred at 0700 on a weekday.

Weather.

- Wind: N/NE 25-35 knots
- Air Temp: 35 degrees Fahrenheit
- Water Temp: 45 degrees Fahrenheit
- Precipitation: moderate rain
- Visibility: less than 1 mile
- Sea State: 8-12 foot seas

Tide/Current.

Slack low water. The tide is transitioning to flood state. The flooding tidal current will be approximately 4 knots.

Calculations.
Using the tables and equations provided in references (c) and (d) as planning factors the following recovery volumes are derived:

	#6 Fuel Oil, Group IV Persistent
Spill Volume	13,000,000 gal
Emulsification Factor	1.4
Planned % on-water recovery	50%
Planned % onshore recovery	70%

Planning Volumes:
On-water recovery = 13,000,000 x 1.4 x .5 = 9,100,000 gal
Onshore recovery = 13,000,000 x 1.4 x .7 = 12,740,000 gal

Actions Taken.
NOTIFICATION AND FIRST RESPONSE. The initial notification of the spill would be received at Marine Safety Office (MSO) Portland from the agent representing the vessel owner/operator. MSO Portland would dispatch a pollution investigation team, including a marine inspector, to the scene from MSFO Portsmouth. Notifications would be made to the New Hampshire Department of Environmental Services (NH DES), and the Maine Department of Environmental Protection. In addition, all internal unit notifications would be made, consisting of Chief, Response and Planning Department, Chief, Prevention Department, Executive Officer, and Commanding Officer. The unit watch personnel would notify the Coast Guard First District Operations Center, Coast Guard Group Portland, Coast Guard Station Portsmouth, the National Strike Force Coordination Center, the Environmental Protection Agency, Region I Operations Center, and the Department of the Interior. MSO personnel would attempt to contact the responsible party to determine what response efforts were being initiated. Through coordination with NH DES, and the responsible party, the Command Post would be established at the Seabrook Incident Field Office. MSO Portland representatives, including the Commanding Officer, or a designate, would proceed to the Command Post. It is at this site that the Unified Command would be established, comprised of at least the Federal On-Scene Coordinator (Captain of the Port Portland, ME) or an assigned representative, New Hampshire, Maine, and responsible party representatives.

RESPONSE TIMES. It will take the MSO Portland investigation team approximately 1.5 hours to arrive on scene. The NH DES, and ME DEP representative(s) could arrive at approximately the same. MSFO Portsmouth can be on seen in 15 minutes.
- 0730 - Tide/current flooding, current at 3.5 knots.
- 0735 - Additional tug on scene.
- 0740 - USCG personnel from Station Portsmouth on scene aboard 41-foot UTB

- 0815 - MSO Portland pollution investigation team, including marine inspector, on scene. Booming operations are underway at spill site by responsible party hired contractor.
- 0825 - COTP Portland establishes Safety Zone on the Piscataqua River near the spill site.
- 0830 - Piscataqua River Cooperative initiates mutual aid agreement, deploying skirt boom at pre-established highly sensitive areas (see Port Region Sensitive Areas), beginning with sites most near the incident. This effort is supported by NH DES equipment (containment boom and workboat) and personnel.
- 0850 - Unified Command established at Command Post.
- 0855 - MSO Portland response personnel arrive in Portsmouth with 20' response trailer, and are directed to deploy boom at Pierce Island. The team is also directed to position the 20' Portsmouth response trailer at Goat Island for boom deployment.
- 0900 - Assistance is requested from First Coast Guard District Response Advisory Team (DRAT), and First District Public Affairs. The DRAT is asked to provide all of its available response equipment, including the VOSS system, and inflatable barges. In addition, assistance is requested from NOAA Scientific Support Coordinator.
- 0905 - Overflight requested from CG Air Station Cape Cod.
- 0915 - Coast Guard Atlantic Strike Team (AST) assistance is requested, this includes: OWOCRS skimming system, ADAPTS pumping system, VOSS system, 3 work boats, 2 inflatable barges, Communications support suite, 10 personnel to support overall operation. AST ETA is 12 hours.
- 0925 - Second contractor hired to concentrate on up-river booming/recovery operations. Initial contractor to concentrate efforts at source point, and down-river operations. Second contractor ETA 2 hours.
- 0930 - NAVSUPSALV assistance is requested in the form of 10 36' skimmer vessel systems, and personnel to operate it. NAVSUPSALV ETA is 24 hours.
- 0935 - Spilled oil has progressed as far up-river as Kittery Point.
- 0940 - MSO Portland pollution investigation team states that divers hired by responsible party report damage to the subject vessel to be extensive, with a 3-foot wide gash running along the bottom of the vessel lengthwise in way of the #1, #2, and #3 cargo tanks. The vessel has also holed its #2 and #3 starboard wing tanks. The remaining tanks appear to be intact.
- 0945 - COTP Portland closes Portsmouth Harbor.
- 0950 - MSO Boston notified of incident.
- 0955 - CGC SHACKLE dispatched to scene to serve as OSC platform, ETA 10 hours.
- 1000 - Third contractor hired to assist with protection and collection operations at sites along New Hampshire coast south of the spill site. Sites will include, but not be limited to, Little Harbor, Rye Harbor, and Hampton Harbor.
- 1005 - HH-60 helicopter from CG AIRSTA CAPE COD arrives in Portsmouth, OSC and state officials depart on overflight.
- 1010 - CG First District support (DRAT, Public Affairs) arrives at Command Post. Joint Information Center established.
- 1015 - Lightering barges are en route the scene from Boston, with ETA of 12 hours. In addition, both ME state barges are en route the scene, with ETA of 6-8 hours.
- 1020 - Press conference scheduled for 1130 at Newington Town Hall.
- 1030 - 30,000 feet of 18"/24"/36" skirt boom on scene or en route, with 40,000 additional feet expected on scene within 18 hours. 75 response/support personnel on scene or en route, with 75 additional personnel expected tomorrow.

- 1035 - RRT teleconference scheduled for 1400 today.
- 1045 - NH DES/ME Emergency Management Agency (MEMA) coordinate emergency management support through NH Emergency Management Agency, and established MEMA networks. This effort includes: coordinating sanitation services (port-a-potties), vehicular traffic control, community notification through established radio broadcasts, etc.
- 1050 - NH and ME state archeologists/historians contacted for information on sites
- 1100 - Overflight returns with report of heavy oil impact along both the Maine and New Hampshire sides of the river at several locations, including Freeman's Point, Badgers Island, Seavey Island (including Back Channel), Goat Island, and Pierces Island. Natural collection sites have been identified and oil recovery equipment is dispatched to these sites.- 1130 - Press conference conducted.
- 1300 - High slack water

CLEANUP ACTIONS. Oil recovery operations, particularly beach cleanup, would be extensive for several months, lasting possibly well over a year. The dynamic flushing action of the tides would assist the responders in keeping a large percentage of the spilled oil from migrating into the upper estuary of the Piscataqua River. Due to the sheer volume of the spill, potentially dramatic oil impacts could be anticipated throughout the Portsmouth Harbor area, including Little Bay and Great Bay. The normal Gulf of Maine circulation would contribute to a southerly migration of the spilled oil, with potential beach impacts as far south as Cape Cod and beyond. Strong winds from the East would contribute to shoreline impact. Any favorable wind shifts from the North or West would assist responders in minimizing shoreline impacts along the coast. On-water recovery operations would be difficult in sea conditions represented in the scenario. It could be anticipated that little oil would be recovered in this way, with most oil recovered following shoreline impact. This point would also be true on the Piscataqua River, although oil recovery efficiency should be significantly improved within the harbor area. A massive oil collection and recovery operation would need to be mounted with substantial assets positioned at natural recovery sites. Shoreline cleanup and restoration would require immense resources and would last several months. Extensive damage to wildlife could be expected, and a commensurate effort to protect, recover, clean, and track oiled wildlife would need to be maintained for several months. Coast Guard personnel would be on hand throughout the operation to document costs and monitor or direct actions taken.

RESOURCE NEEDS.

- 125,000' of 18"/24"/36" skirt boom
- 50 vacuum trucks/skimming heads
- 20 oil recovery platforms (vessels)
- 75 work boats
- 40 portable skimmers
- 50 portable tanks
- 850 laborers
- Hot-water/high-pressure washing equipment
- Ambient-water/low-pres. washing equipment
- Dump trucks
- Front-end loaders
- Protective clothing (respiratory)

SENSITIVE AREA CONSIDERATIONS. The Piscataqua River, and the associated Portsmouth Harbor, is part of a large estuarial system, including the highly sensitive Great Bay and Little Bay region. For an overview of sensitive area considerations, refer to the Geographic Response Plans.

SHORTFALLS. An oil spill of this size would stress the resources of both the Area, and of the region. Resources, such as response equipment, skimmer boats, and overall support equipment, may need to be identified in many states, possibly throughout the country. Sources for these resources include, in addition to the resources mentioned in the above scenario, the Coast Guard Gulf and Pacific Strike Teams, oil spill cleanup contractors, and other oil industry sources. The resource needs indicated above reflect only the anticipated needs in the Maine and New Hampshire Area. It must be understood that a spill of this size would involve multiple areas (USCG COTP zones), and the resources for any involved Areas would be reflected in their respective assessments of the incident. A list of primary short falls is as follows: (1) Insufficient number of trained response personnel available in a timely manner. (2) Communications resources would be stressed. Communication between contractors and the OSC (Unified Command) may be hampered by lack of common radio frequencies. Cellular telephones may play a large role, but the volume of telephone calls made during an event of this magnitude could be expected to negatively impact the system. (3) Insufficient number of designated response work boats possessed by BOA contractors for a spill of this size, thus requiring aggressive acquisitions, and/or extensive deployment of vessels of opportunity. (4) Insufficient availability of cold weather gear such as boots, gloves, waders, and coats, in sufficient quantities for all responders. (5) Insufficient protective clothing, particularly respiratory protective equipment. (6) Insufficient number of trained wildlife rehabilitation personnel readily available.

9423.12 Portland Port Region Scenario.

Incoming tank ship runs aground on Jordan Reef holing several cargo tanks. Vessel founders in heavy seas, spilling an estimated 30,000,000 gallons of crude oil into the Gulf of Maine and Casco Bay. The incident occurred at 0700 on a weekday.

Weather.

- Wind: E/NE 25-35 knots
- Air Temp: 35 degrees Fahrenheit
- Water Temp: 45 degrees Fahrenheit
- Precipitation: Moderate rain
- Visibility: less than 1 mile
- Sea State: 10-15 foot seas

Tide/Current. - Slack low water, transitioning to flood tide. Current will be approximately 1.5 knots.

Calculations. - Using the tables and equations provided in references (c) and (d) as planning factors the following recovery volumes are derived:

Crude Oil, Group IV
Persistent

Spill Volume	30,000,000 gal
Emulsification Factor	1.4
Planned % on-water recovery	50%
Planned % onshore recovery	70%

Planning Volumes:
On-water recovery = 30,000,000 x 1.4 x .5 = 21,000,000 gal
Onshore recovery = 30,000,000 x 1.4 x .7 = 29,400,000gal

Actions Taken.
NOTIFICATION AND FIRST RESPONSE. The initial notification of the spill would be received at Marine Safety Office (MSO) Portland from the agent representing the vessel operator. MSO Portland would dispatch a pollution investigation team, including a marine inspector, to the scene. The Maine Department of Environmental Protection (ME DEP), and the New Hampshire Department of Environmental Services (NH DES) would be notified. In addition, all internal unit notifications would be made, consisting of Chief, Response and Planning Department, Chief, Prevention Department, Executive Officer, and Commanding Officer. The unit watch personnel would notify the Coast Guard First District Operations Center, Coast Guard Group Portland, the National Strike Force Coordination Center, the Environmental Protection Agency, Region I Operations Center, and the Department of the Interior. MSO personnel would attempt to contact the responsible party to determine what response efforts were being initiated. Through coordination with ME DEP, and the responsible party, the Command Post would be established at the Marine Safety Office. It is at this site that the Unified Command would be established, comprised of at least the Federal On-Scene Coordinator (Captain of the Port Portland, ME), Maine representatives, and responsible party representatives.

RESPONSE. It will take the MSO Portland investigation team approximately 30 minutes to arrive on scene. The ME DEP representative(s) could arrive at approximately the same time, or transit to the scene with Coast Guard personnel.
- 0730 - Tide/current flooding, current at 1.5 knots.
- 0735 - Two harbor tugs at scene
- 0740 - MSO Portland pollution investigation team, including marine inspector, on scene. Booming operations are underway at spill site by contractor hired by responsible party.
- 0815 - Unified Command established at Command Post, located at USCG MSO Portland.
- 0820 - COTP Portland establishes Safety Zone at spill site.
- 0825 - MSO pollution investigation team reports that the vessel is severely damaged along the port side, with apparent damage to at least four tanks. The vessel is taking on water and has lost its ability to maneuver. The tugs on scene are attempting to hold the vessel in position, but are finding it very difficult with the sea conditions. The amount of oil spilled is estimated at one million gallons, with more expected. The responsible party has a diver en route the scene to perform an assessment of the damage.
- 0830 - COTP Portland closes Portland Harbor.
- 0835 - Assistance is requested from First Coast Guard District Response Advisory Team (DRAT), and First District Public Affairs. DRAT is asked to provide its boom

and vessel of opportunity skimming system, with technical support personnel. Resources to arrive on scene within 5 hours.

- 0840 - Scientific Support Coordinator assistance is requested. SSC ETA within 3 hours.
- 0845 - Overflight requested from CG Air Station Cape Cod.
- 0850 - Coast Guard Atlantic Strike Team (AST) assistance is requested, this includes: ADAPTS pumping system, OWOCR system, small boats, communications equipment, and 10 personnel to support overall operation. AST ETA is 12 hours.
- 0850 - National Pollution Fund Center support is requested; this entails on-site assistance from Pollution Fund Case Manager.
- 0855 - Second contractor hired to concentrate on highly sensitive area protective booming, and on-shore oil recovery operations. Consultation with Unified Command will determine protection priorities. Initial contractor to concentrate efforts at source point, and on-water recovery. Second contractor ETA 1 hour, with continual influx of necessary response equipment expected over the next 24 hours.
- 0900 - Third contractor hired. ETA is 2 hours, with continual influx of necessary response equipment expected over the next 24 hours.
- 0910 - Spilled oil has progressed west/southwest with heavy oil impacting Portland Head Light, Trundy Point, Delano Park, Chimney Rock. Sheen has been reported near Cushing Island.
- 0915 - MSO Portland pollution investigation team states that divers hired by responsible party report that gross damage has occurred to the number one, two, three, and four center cargo tanks, with associated damage to the number one and two port cargo tanks, and number three ballast tank. There may be internal damage to other vessel has begun drifting west and is expected to founder on/near Pebbles Point.
- 0920 - National Weather Service reports that the weather conditions are expected to worsen through the day with max winds of 40 knots sustained expected for late evening. Sea conditions are expected to rise to 20-25 feet by midnight.
- 0925 - Fourth contractor hired. ETA is 4 hours, with continual influx of necessary response equipment expected over the next 18 hours.
- 0930 - CGC SHACKLE designated to serve as OSC platform.
- 0940 - Press conference scheduled for 1130 at Portland Naval Reserve Training Center.
- 0945 - NAVSUPSALV assistance is requested in the form of naval architect, salvage master, and 10 36' skimmer vessel systems, and personnel to operate same. NAVSUPSALV ETA is 24 hours.
- 1000 - 10,000 feet of 18"/24"/36" skirt boom on scene or en route, with 15,000 additional feet expected on scene within 12 hours. 75 response/support personnel on scene or en route, with 75 additional personnel expected tomorrow.
- 1015 - HH-60 helicopter from CG AIRSTA CAPE COD arrives in Portland, OSC and state officials depart on overflight.
- 1045 - ME Emergency Management Agency (MEMA) is asked to coordinate emergency management support through established MEMA networks. This effort includes: coordinating sanitation services (port-a-potties), vehicular traffic control, etc.
- 1050 - ME state archeologist contacted for information on sites.
- 1100 - CG First District support personnel (DRAT, Public Affairs) arrives at Command Post. Joint Information Center established.
- 1105 - Overflight returns with report of heavy oil impact along coastline from Danford Cove to Trundy Point. Patchy oil and sheen is reported migrating into Portland

Harbor as far as Spring Point. Collection sites have been identified and oil recovery resources are dispatched to these sites.
- 1130 - Press conference conducted.
- 1200 - Protective booming operations are complete at entrance to Spurwink River, Scarborough River, Upper Fore River, and the Presumpscot River.
- 1205 - Vessel hard aground at Delano Park. Substantial amounts of oil continue to spill from its holed tanks. Additional damage is expected from its pounding on the rocks at Delano Park.
- 1300 - High slack water

CLEANUP ACTIONS. Little or no at-sea oil recovery is expected within the first 2 days of this incident. Foul weather and rough sea conditions will make it impossible to accomplish any meaningful oil recovery anywhere immediately along the coast. Substantial amounts of oil have penetrated Casco Bay as a result of the tides and shifting winds. By the end of the second day of the incident, oil is reported to have migrated as far west/southwest as Boon Island, and Isle of Shoals. Heavy oil impact has occurred along the Maine coast as far southwest as Cape Neddick, including Bald Head Cliff, Wells Beach, Cape Porpoise, and Old Orchard Beach. The spilled oil is expected to impact coastline as far south/southwest as Cape Cod. MSO Boston, MSO Long Island Sound, and MSO Providence are mobilizing response resources in anticipation of the migrating oil.

RESOURCE NEEDS.
- 250,000' of 18"/24"/36" skirt boom
- 100 vacuum trucks/skimming heads
- 50 oil recovery platforms (vessels)
- 100 work boats
- 50 portable skimmers
- 150 portable tanks
- 1000 laborers
- Hot-water/high-pressure washing equipment
- Ambient-water/low-pres. washing equipment
- Dump trucks
- Front-end loaders
- Massive amounts of sorbent materials

SENSITIVE AREA CONSIDERATIONS. The Portland Port Region has many highly sensitive areas, most notably the Scarborough River/Marsh and the Spurwink River/Marsh, as well as several sites in Casco Bay. Refer to the Geographic Response Plan for an overview of sensitive area considerations.

SHORTFALLS. An oil spill of this size would stress the resources of both the Area and the region. Resources, such as response equipment, skimmer boats, and overall support equipment, may need to be identified in many states, possibly throughout the country. Sources for these resources include, in addition to the resources mentioned in the above scenario, the Coast Guard Gulf and Pacific Strike Teams, oil spill cleanup contractors, and other oil industry sources. The resource needs indicated above reflect only the anticipated needs in the Maine and New Hampshire Area. It must be understood that a spill of this size would involve multiple areas (USCG COTP zones), and the

resources for any involved Areas would be reflected in their respective assessments of the incident. A list of primary shortfalls is as follows: (1) Insufficient number of trained response personnel available in a timely manner. (2) Communications resources would be stressed. Communication between contractors and the OSC (Unified Command) may be hampered by lack of common radio frequencies. Cellular telephones may play a large role, but the volume of telephone calls made during an event of this magnitude could be expected to negatively impact the system. (3) Insufficient number of designated response work boats possessed by BOA contractors for a spill of this size, thus requiring aggressive acquisitions, and/or extensive deployment of vessels of opportunity. (4) Insufficient number of vacuum trucks readily available. (5) Insufficient availability of foul weather gear such as boots, gloves, waders, and coats, in sufficient quantities for all responders. (6) Insufficient protective clothing, particularly respiratory protective equipment. (7) Insufficient number of trained wildlife rehabilitation personnel readily available.

9423.13 Penobscot Bay Port Region Scenario.

Incoming tank ship runs aground on Odom Ledge holing several cargo tanks. Vessel takes on water and founders, spilling an estimated 13,000,000 gallons of #6 oil into the Penobscot River/Bay. Incident occurs at 0700 on a weekday.

Weather.

- Wind: E/NE 20-25 knots
- Air Temp: 35 degrees Fahrenheit
- Water Temp: 45 degrees Fahrenheit
- Precipitation: Moderate rain
- Visibility: less than 1 mile
- Sea State: choppy

Tides/Current.
Slack low water, transitioning to flood tide. Current will be approximately 2.5 knots.

Calculations.
Using the tables and equations provided in references (c) and (d) as planning factors the following recovery volumes are derived:

	#6 Fuel Oil, Group IV Persistent
Spill Volume	13,000,000 gal
Emulsification Factor	1.4
Planned % on-water recovery	50%
Planned % onshore recovery	70%

Planning Volumes:
On-water recovery = 13,000,000 x 1.4 x .5 = 9,100,000 gal
Onshore recovery = 13,000,000 x 1.4 x .7 = 12,740,000 gal

Actions Taken.

NOTIFICATION AND FIRST RESPONSE. The initial notification of the spill would be received at Marine Safety Office (MSO) Portland from the agent representing the vessel operator. MSO Portland would notify the Bucksport Detached Duty team, whereby a pollution investigation team, including a marine inspector, would be sent to the scene. The Maine Department of Environmental Protection (ME DEP) would be notified. In addition, all internal unit notifications would be made, consisting of Chief, Response and Planning Department, Chief, Prevention Department, Executive Officer, and Commanding Officer. The unit watch personnel would notify the Coast Guard First District Operations Center, Coast Guard Group Southwest Harbor, Coast Guard Station Rockland, the National Strike Force Coordination Center, the Environmental Protection Agency, Region I Operations Center, and the Department of Interior. MSO personnel would attempt to contact the responsible party to determine what response efforts were being initiated. Through coordination with ME DEP, the Command Post would be established at either the Marine Safety Office, or at a site in Bucksport. It is at this site that the Unified Command would be established, comprised of at least the Federal On-Scene Coordinator (Captain of the Port Portland, ME) or an assigned representative, Maine state representatives, and responsible party representatives.

RESPONSE. It will take the MSO Portland (MSFO Bucksport) investigation team approximately 40 minutes to arrive on scene. The ME DEP representative(s) could arrive at approximately the same time.

- 0730 - Tide/current flooding, current at 1.5 knots.
- 0735 - Two harbor tugs at scene.
- 0810 - COTP Portland establishes Safety Zone at spill site.
- 0815 - MSFO Bucksport pollution investigation team, including a marine inspector, on scene.- 0820 - Maine DEP on scene.
- 0825 - Responsible party hired contractor en route scene to boom vessel and begin oil recovery operations.
- 0830 - MSO Portland personnel en route scene with Portland 20'- response trailer. In addition, MSO personnel en route MSFO's Bucksport response equipment storage facility to begin moving 1,000 feet of skirt boom to protect the entrance to the Marsh River. On water support to be provided by contractor.
- 0840 - MSO pollution investigation team reports that the vessel has foundered and is resting on the bottom in 45 feet of water north of Odom Ledge. Their appears to be gross damage to several center cargo tanks, with collateral damage to an unknown number of wing tanks. An estimated one million gallons of oil have spilled, and oil continues to leak from the damaged tanks. The responsible party has a diver en route the scene to perform an assessment of the damage.
- 0835 - COTP Portland closes the Penobscot River north of Fort Point, other than to response operations.
- 0845 - At the request of the OSC, ME DEP mobilizes 7,800 feet of skirt boom, 3 workboats, and support personnel to the scene for protection of sensitive areas. ETA is 3 hours.
- 0850 - Assistance is requested from First Coast Guard District Response Advisory Team (DRAT), and First District Public Affairs. DRAT is asked to provide its boom and vessel of opportunity skimming system, with technical support personnel. Resources to arrive on scene within 5 hours.
- 0855 - NOAA SSC support is requested; ETA 4 hours.
- 0900 - Overflight requested from CG Air Station Cape Cod.

- 0910 - Coast Guard Atlantic Strike Team (AST) assistance is requested, this includes: ADAPTS pumping system, OWOCR system, small boats, communications equipment, and 10 personnel to support overall operation. AST ETA is 14 hours.
- 0920 - NAVSUPSALV assistance is requested in the form of naval architect, salvage master, and 10 36' skimmer vessel systems, and personnel to operate same. NAVSUPSALV ETA is 24 hours.
- 0930 - Unified Command established at Field Command Post, located in Belfast.
- 0940 - Second contractor hired by OSC to concentrate on highly sensitive area protective booming, and on-shore oil recovery operations. Consultation with Unified Command will determine protection priorities. Initial contractor to concentrate efforts at source point, and on water recovery. Second contractor ETA 3 hours.
- 0945 - Spilled oil has progressed north, with the leading edge heavily impacting the western shore of Verona Island as far as Verona Park. Oil has also impacted Mill Cove, and south to Sandy Point.
- 0950 - Third contractor hired. ETA is 4 hours, with continual influx of necessary response equipment expected over the next 24 hours.
- 0955 - ME state archeologist contacted for info on sites.
- 1000 - MSO MSFO Bucksport pollution investigation team reports that divers hired by responsible party report that the number one, two, and three starboard wing tanks have been holed. Internal damage to other cargo tanks is suspected but not confirmed. Oil continues to spill from the vessel, with the vessel resting on the rocky bottom.
- 1005 - CG Station Rockland 41-foot UTB designated to serve as OSC platform.
- 1010 - Press conference scheduled for 1130 at Field Command Post in Bucksport.
- 1030 - 15,000 feet of 18"/24"/36" skirt boom on scene or en route, with 25,000 additional feet expected on scene within 12-18 hours. 75 response/support personnel on scene or en route, with 75 additional personnel expected tomorrow.
- 1045 - HH-60 helicopter from CG AIRSTA CAPE COD arrives in Belfast, OSC and state officials depart on overflight.
- 1045 - ME Emergency Management Agency (MEMA) is asked to coordinate emergency management support through established MEMA networks. This effort includes: coordinating sanitation services (port-a-potties), vehicular traffic control, etc.
- 1125 - Overflight returns. Heavy oil impact is sighted along the western bank of the Penobscot River from Sandy Point to Fort Knox. Oil has also impacted parts of Verona Island, though not as bad as first reported, at several locations north to Verona Park.
- 1130 - Press conference held at Field Command Post.
- 1230 - CG First District support personnel (DRAT, Public Affairs) arrives at Command Post. Joint Information Center established.
- 1200 - Protective booming operations are complete at entrance to Marsh River, and Orland River, at both ends of the Eastern Channel. Oil recovery teams, and boom tenders are staging at each boom site to collect oil that collects in these areas.
- 1230 - Lightering barges are en route the scene with ETA of 3 hours.
- 1300 - High slack water

CLEANUP ACTIONS. The bulk of oil recovered from the water would occur within the first week of the response effort. Tremendous shoreline impact could be expected throughout Penobscot Bay and River. Cleanup efforts for this dimension of the incident

are expected to last well over one year. Coast Guard personnel would be on hand throughout the operation to document costs and direct or monitor actions taken.

RESOURCE NEEDS.

- 250,000' of 18"/24"/36" skirt boom
- 100 vacuum trucks/skimming heads
- 50 oil recovery platforms (vessels)
- 100 work boats
- 50 portable skimmers
- 150 portable tanks 1000 laborers
- Hot-water/high-pressure washing equipment
- Ambient-water/low-pres. washing equipment
- Dump trucks
- Front-end loaders
- Massive amounts of sorbent materials

SENSITIVE AREA CONSIDERATIONS. The Penobscot Bay Port Region has many highly sensitive areas. For an overview of sensitive area considerations, refer to the Geographic Response Plan.

SHORTFALLS. An oil spill of this size would stress the resources of both the Area, and of the region. Resources, such as response equipment, skimmer boats, and overall support equipment, may need to be identified in many states, possibly throughout the country. Sources for these resources include, in addition to the resources mentioned in the above scenario, the Coast Guard Gulf and Pacific Strike Teams, oil spill cleanup contractors, and other oil industry sources. A list of primary short falls is as follows: (1) Insufficient number of trained response personnel available in a timely manner. (2) Communications resources would be stressed. Communication between contractors and the OSC (Unified Command) may be hampered by lack of common radio frequencies. Cellular telephones may play a large role, but the volume of telephone calls made during an event of this magnitude could be expected to negatively impact the system. (3) Insufficient number of designated response work boats possessed by BOA contractors for a spill of this size, thus requiring aggressive acquisitions, and/or extensive deployment of vessels of opportunity. (4) Insufficient availability of cold weather gear such as boots, gloves, waders, and coats, in sufficient quantities for all responders. (5) Insufficient protective clothing, particularly respiratory protective equipment. (6) Insufficient number of trained wildlife rehabilitation personnel readily available.

9423.14 Eastport Port Region Scenario.

Tank ship bound for port of Saint John, New Brunswick, suffers a power outage and runs aground near Dipper Harbor, New Brunswick, holing several cargo tanks. The vessel takes on water and founders, spilling an estimated 30,000,000 gallons of crude oil. An estimated 20,000,000 gallons drifts into the Passamaquoddy Bay/Eastport area. Incident occurs at 0700 on a weekday.

Weather.

- Wind: E/NE 20-25 knots
- Air Temp: 35 degrees Fahrenheit

- Water Temp: 45 degrees Fahrenheit
- Precipitation: Moderate rain
- Visibility: less than 1 mile
- Sea State: 15-20 feet - Bay of Fundy & 3-6 feet - Friar Roads

Tides/Currents.
Slack low water, transitioning to flood tide. Current will be approximately 2.5 knots through Head Harbor Passage/Friar Roads.

Calculations.
Using the tables and equations provided in references (d) and (e) as planning factors the following recovery volumes are derived:

	Crude Oil, Group IV Persistent
Spill Volume	20,000,000 gal
Emulsification Factor	1.4
Planned % on-water recovery	50%
Planned % onshore recovery	70%

Planning Volumes:
On-water recovery = 20,000,000 x 1.4 x .5 = 14,000,000gal
Onshore recovery = 20,000,000 x 1.4 x .7 = 19,600,000 gal

Actions Taken.
NOTIFICATION AND FIRST RESPONSE. The initial notification of the spill would be received at Marine Safety Office (MSO) Portland from the Canadian Coast Guard. MSO Portland would notify the Bucksport Detached Duty team, from which a pollution investigation team would be sent to Eastport. The Maine Department of Environmental Protection (ME DEP) would be notified, as would the Maine Dept. of Marine Resources due to the considerable aquaculture interests in the Eastport region. In addition, all internal unit notifications would be made, consisting of Chief, Response and Planning Department, Chief, Prevention Department, Executive Officer, and Commanding Officer. The unit watch personnel would notify the Coast Guard First District Operations Center, Coast Guard Group Southwest Harbor, Coast Guard Station Jonesport, Coast Guard SARDET Eastport, the National Strike Force Coordination Center, the Environmental Protection Agency, Region I Operations Center, and the Department of Interior. The Canadian Coast Guard would be contacted to further discuss their response actions and to coordinate cooperative efforts under the CANUSLANT Agreement. MSO personnel would attempt to contact the responsible party to determine what response efforts were being initiated. Through coordination with ME DEP, the Command Post would be established at a site in Eastport. It is at this site that the Unified Command would be established, comprised of at least the Federal On-Scene Coordinator (Captain of the Port Portland, ME) or assigned representative, Maine state representatives, and if possible, responsible party representatives.

RESPONSE. It will take the MSO Portland (MSFO Bucksport) investigation team approximately 3 hours to arrive on scene. The ME DEP representative(s) could arrive at approximately the same time.

- 0730 - Tide/current flooding, current at 2.5 knots.
- 0740 - Eastport Harbor Master notified of incident. Quoddy Spill Prevention Group to notify all aquaculturists in area of incident.
- 0745 - CG Group Southwest Harbor begins broadcasting Notice to Mariners spill information.
- 0750 - MSO Portland requests that personnel from CG Stations Southwest Harbor, and Jonesport mobilize the attendant 10' pollution response trailers to Eastport. ETA 3 hours and 1 hour respectively. Teams will report to MSO Portland when on scene.
- 0800 - CG hired contractor begins mobilizing response resources to Eastport. ETA 6-8 hours
- 0810 - ME DEP mobilizes response resources to Eastport. ETA 4-hours.
- 0830 - MSO Portland personnel en route Eastport with 20' pollution response trailer. ETA 7 hours. 0840 - MSO Portland request NOAA SSC support. ETA in Portland is 2.5 hours.
- 0845 - Second contractor hired by OSC, with ETA of 6-8 hours.
- 0850 - MSO Portland contacts Eastport Airport requesting permission to stage arriving response resources at airport. Permission granted.
- 0855 - OSC hires third contractor, with ETA of 8-10 hours. Contractor will organize a continual influx of necessary response equipment over the next 24 hours.
- 0900 - Canadian Coast Guard reports that there is heavy oil impact along Spruce Island, Sandy Island, Casco Bay Island, and Popes Island. Leading edge of slick at NE shore of Indian Island.,
- 0905 - ME state archeologist contacted for information on sites.
- 0910 - Overflight requested from CG AIRSTA Cape Cod. ETA in Portland 1.5 hours.
- 0920 - Coast Guard Atlantic Strike Team (AST) assistance is requested, this includes: ADAPTS pumping system, OWOCR system, small boats, communications equipment, and 10 personnel to support overall operation. AST ETA is 16 hours.
- 0920 - NAVSUPSALV assistance is requested in the form of 10 36' skimmer vessel systems, and personnel to operate it. NAVSUPSALV ETA is 30 hours.
- 0925 - CG Station Jonesport personnel report arrival in Eastport. Directed to remain at CG SARDET Eastport office for further direction.
- 1030 - MSO MSFO Bucksport personnel report arriving on scene. Directed to conduct shoreline assessment with support from SARDET Eastport boat assets. Informed that all response resources en route to Eastport are to be staged at Eastport Airport.
- 1045 - ME DEP personnel arrive on scene. MSO/DEP personnel to conduct shoreline assessment, and direct incoming response resource staging at Eastport Airport.
- 1100 - CG AIRSTA overflight arrives Portland to pickup MSO OSC for overflight of spill area.
- 1130 - 15,000 feet of 18"/24"/36" skirt boom on scene or en route, with 15,000 additional feet expected on scene within 18 hours. 75 response/support personnel on scene or en route.
- 1215 - CG overflight lands at Eastport Airport. OSC reports heavy oil impact on Eastern Shore of Deer Island, and on all of the smaller islands east of Deer Island. In addition, heavy oil impact is reported on north and east coast of Campobello Island. Lead edge of slick is drifting into Head Harbor Passage and Friar Roads.
- 1300 - High slack water

CLEANUP ACTIONS. Very little on-water recovery of oil would be possible in the sea conditions for this scenario. As the seas calmed, on-water recovery could commence. A tremendous amount of shoreline impact is anticipated and cleanup efforts for this dimension of the incident are expected to last over a year. All attempts would be made to protect aquacultural sites and sensitive areas. This action would involve protective booming techniques, whose effectiveness would vary considerably based on surface water conditions and currents. Heavy oil impact in and around Cobscook and Whiting Bays could be anticipated due to the rapid tidal currents and the dramatic movement of water in and out of the area. Coast Guard personnel would be on hand throughout the operation to document costs and direct or monitor actions taken.

RESOURCE NEEDS.

- 250,000' of 18"/24"/36" skirt boom
- 100 vacuum trucks/skimming heads
- 50 oil recovery platforms (vessels)
- 100 work boats
- 50 portable skimmers
- 150 portable tanks
- 1000 laborers
- Hot-water/high-pressure washing equipment
- Ambient-water/low-pres. washing equipment
- Dump trucks
- Front-end loaders
- Massive amounts of sorbent materials

SENSITIVE AREA CONSIDERATIONS. The Eastport Port Region contains many highly sensitive areas, including acquacultural sites. The rapid currents and dramatic tides would make effective protection of the sensitive areas very difficult. For an overview of sensitive area considerations, refer the Geographical Response Plan.

SHORTFALLS. An oil spill of this size would stress the resources of both the Area, and of the region. Resources, such as response equipment, skimmer boats, and overall support equipment, may need to be identified in many states, possibly throughout the country. Sources for these resources include, in addition to the resources mentioned in the above scenario, the Coast Guard Gulf and Pacific Strike Teams, Canadian Coast Guard, oil spill cleanup contractors, and other oil industry sources. A list of primary short falls is as follows: 1. Insufficient number of trained response personnel available in a timely manner. 2. Communications resources would be stressed. Communication between contractors and the OSC (Unified Command) may be hampered by lack of common radio frequencies. Cellular telephones may play a large role, but the volume of telephone calls made during an event of this magnitude could be expected to negatively impact the system. 3. Insufficient number of designated response work boats possessed by BOA contractors for a spill of this size, thus requiring aggressive acquisitions, and/or extensive deployment of vessels of opportunity. 4. Insufficient availability of cold weather gear such as boots, gloves, waders, and coats, in sufficient quantities for all responders. 5. Insufficient protective clothing, particularly respiratory protective equipment. 6. Insufficient number of trained wildlife rehabilitation personnel readily available. 7. Insufficient lodging in the immediate area to accommodate the number of people that would settle on the area in response to this incident.

9430 Volunteer Program

9431 General

For the purpose of the Area Contingency Plan, volunteers will be referred to as uncompensated workers.

There should be no distinction made between an uncompensated worker and a compensated worker for purposes of health and safety, however, the utilization of uncompensated workers must be approved by the OSC. To the greatest extent possible, uncompensated workers should have limited roles in spill response. They should not be utilized in areas that will manage waste generated from the impacted areas or in any situation that could potentially result in the person's exposure to contaminants.

If the OSC approves a request to utilize uncompensated workers, they may participate in the following activities:

- Operating phone networks designed to address public input and concern.
- Helping to mobilize and inventory equipment (prior to use).
- Beach patrol (to monitor operations and identify equipment needs) and reconnaissance of unaffected areas.
- Operation and construction of first aid and refreshment stations for workers.
- Post-emergency response operations, (i.e., shoreline cleanup or pre-impact beach cleanup.)
- Assisting in wildlife rehabilitation.
- Other tasks, in the Command Post or uncontaminated areas, as specified by the OSC.

If the OSC approves the use of uncompensated workers, the responsible party or OSC shall:

- Establish and make known a phone number to be used for managing incoming requests to volunteers.
- Designate an individual to act as the Volunteer Coordinator.
- Provide OSC with a written plan detailing the work environments in which the uncompensated workers will be working.

Uncompensated workers **will not** be allowed to perform certain tasks such as:

- Collect oiled wildlife without the permission of the OSC.
- Assist with the spill clean up without proper certification and assignment to spill response contractor.
- Operate personal watercraft in the safety zone for spill response reasons.

Training requirements for uncompensated workers will be specific to the task being performed. All uncompensated workers will be required to complete, at a minimum, a four-hour safety training course, in compliance with in 29 C.F.R.1910.120(q)(11)(ii), covering hazardous communications, emergency action plans & respiratory protection, to be sponsored by the responsible party. Uncompensated workers tasked to perform post-emergency response operations, as delineated in 29 C.F.R. 1910.120(q)(11) and OSHA's inspection guidelines for post-emergency response operations, will be required to receive training if required by the OSC in consultation with the OSHA RRT

representative. Volunteer Coordinator will be responsible for the maintenance of a training log to document the training that each uncompensated worker receives. The log shall be made available to the OSC upon request, and the OSC will ensure each worker is properly trained and placed in work environments consistent with the provisions of this plan. The OSC may also elect to solicit the assistance of such agencies as OSHA, American Red Cross, and FEMA to assist in the training of uncompensated workers.

9432 Volunteer Coordinator

A volunteer coordinator is a person or agency responsible for managing and overseeing all aspects of uncompensated worker participation, including recruitment, induction and deployment. The scope of a volunteer coordinator is extremely vast as uncompensated workers can be assigned for numerous tasks, including wildlife rehabilitation and beach clean-up, at any time or location during an oil spill or spill redemption. The overall geographic area presents certain benefits and shortfalls. The State of New Hampshire has a coastline that can be supported by one support center with most residents living near the coastline having a vested interest within the state geographic boundary. The State of Maine however has an expansive coast line with many support center requirements as most uncompensated workers are not willing to travel great distances and have a minimal vested interest in effected areas outside of their local geographic region.

A discharge of oil will present a volunteer coordinator with different challenges and response options varying from spill to spill and from state to state. Strategies must then be stated in a general sense with outlined concerns for the protection of the uncompensated workers.

In dealing with an oil spill, the volunteer coordinator must outline all priorities. The foremost priority will be the safety of the uncompensated workers. The second priority is the protection of the environment. An oil spill can be very dangerous and the uncompensated workers need to be aware of how hazardous a situation this may be and must be protected from all potential harms. Both Maine and New Hampshire have areas that are environmentally sensitive. During a spill, these areas need to be protected from the oil, but safety of the uncompensated worker is paramount.

9433 Operation and Strategies

A volunteer coordinator provides a pre-published phone number supplying the general public and uncompensated workers with general and specific information to assist in the deployment of uncompensated workers.

The state of New Hampshire has provided an in state phone number **603-271-8807.** The point of contact is Carol Swete of New Hampshire Department of Environmental Services

The state of Maine has provided an in state number **1-877-OIL BIRD**, however this number does not account for all volunteers, only those responding to wildlife rehabilitation.

9500 Applicable Memorandums Of Understanding/Agreement

A memorandum of understanding (MOU) or agreement (MOA) is a written statement between two or more parties that outlines the terms of a contract or negotiation. It can spell out who is responsible for what work, duties, actions, and how to resolve any disputes that occur. MOUs/MOAs between the U.S. Coast Guard and various government agencies that involve or effect the U.S.C.G.'s mission regarding response to discharges of oil into the environment are especially important to contingency planning. The following is a listing and brief description of the MOUs that the Coast Guard has entered into with other government agencies that are involved, or have an interest in, oil spill response. The complete MOUs are included as exhibits at the end of this Section.

9510 USCG and EPA

MOU Between U.S. Coast Guard and the Environmental Protection Agency - Signed 4 January 1982. The U.S.C.G. and the EPA agree that a means is required to fund U.S.C.G. costs incurred during emergency response to releases, or threats of releases of hazardous substances, pollutants, or contaminants. This MOU establishes the accounting, contracting, and fund management control policies and procedures for U.S.C.G. response actions. This MOU describes U.S.C.G. procedures for accessing the Comprehensive Environmental Response, Compensation, and Liability Act fund.

Instrument of Redelegation of Sections 2(d), 2(f), 2(g), 3(a), and 4(b) of Executive Order 12316 of August 14, 1981 from the U.S. Coast Guard to the Environmental Protection Agency on Response Actions. The EPA was given responsibility for directing remedial actions following a release of hazardous substances.

MOU Between the Environmental Protection Agency and the U.S. Coast Guard Concerning the Mitigating of Damage to the Public Health or Welfare Caused by a Discharge of a Hazardous Substance under Section 311 of the Clean Water Act - Signed 3 October 1979. The U.S.C.G. and the EPA agree that the responsibility for the mitigation of damage to the public health and welfare caused by the discharge of hazardous substances shall be shared by the U.S.C.G. and EPA. This MOU establishes policy concerning the responsibilities of the EPA and U.S.C.G. regarding mitigation actions.

9520 DOI and DOT

MOU Between the Departments of Interior and Transportation Concerning Respective Responsibilities Under the National Oil and Hazardous Substances Pollution Contingency Plan - Signed 16 August 1971. In order to assure the most efficient use of resources under the National Oil and Hazardous Substances Pollution Contingency Plan, the Secretaries of the Departments agree that the U.S.G.S. has the capability to coordinate and direct measures to abate the source of pollution when the source is an oil, gas, or sulfur well. Whereas the U.S.C.G. has the capability to coordinate and direct measures to contain and remove pollutants. This MOU establishes the provisions to be observed by the agencies of the two Departments in the exercise of their authority and the discharge of their responsibilities.

9530 USCG and USF&W

Interagency Agreement Between the U.S. Coast Guard and the U.S. Fish and Wildlife Service for Participation in Pollution Incidents - Signed 24 July 1979. The purpose of this Interagency Agreement (IAA) is to specify the conditions and procedures under which the U.S. Fish and Wildlife Service will provide U.S.C.G. Federal OSCs with appropriate technical expertise as well as service in support of efforts to control and clean up oil and hazardous chemical discharges

9540 USN and USCG

Interagency Agreement Between the U.S. Navy and the U.S. Coast Guard for Cooperation in Oil Spill Clean-Up Operations and Salvage Operations - Signed 15 September 80. The purpose of this IAA is to specify the conditions and procedures under which the U.S.C.G. can request and the USN will provide oil spill clean up and/or salvage equipment and services to support the U.S.C.G. in non-Navy oil spills and other operations requiring salvage expertise. As well as the conditions and procedures under which the USN can request and the U.S.C.G. will provide equipment and services to support the USN in salvage operations and in response to oil spills which are caused by facilities or vessels under Navy jurisdiction. Reimbursement procedures and policies are also covered.

9550 Canada and United States

Canada - United States Joint Marine Pollution Contingency Plan - Signed 15 September 1983. The purpose of this plan is to provide a framework for U.S.-Canada cooperation in response to pollution incidents that may pose a significant threat to the waters or coastal areas of both parties, or, although affecting only one party, are of such a magnitude as to justify a request to the other party for assistance.

9560 USCG and New Hampshire

MOA between the U.S. Coast Guard and the State of New Hampshire for cooperation and coordination between the Coast Guard and the NH Department of Environmental Services in implementing and exercising respective authorities regarding marine oil spill prevention, preparedness and response. The MOA ensures a coordinated response and best achievable protection from the impact of oil pollution incidents.

9570 USCG, EPA, DOI, DOC/NOAA, ME, MA, NH, RI, and VT

Finalized in 1998, this MOU outlines the pre-authorization areas and protocols for In-Situ Burning.

Memorandum Of Understanding

Among

U.S. Coast Guard District 1 (USCG)

and

U.S. Environmental Protection Agency Region I (EPA)

and

U.S. Department of the Interior (DOI)
and
U.S. Department of Commerce /
National Oceanic and Atmospheric Administration (DOC/NOAA)
and
State of Maine (ME) Department of Environmental Protection
and
Commonwealth of Massachusetts (MA)
Executive Office of Environmental Affairs
and
State of New Hampshire (NH) Department of Environmental Services
and
State of Rhode Island and Providence Plantations (RI)
Department of Environmental Management
and
State of Vermont (VT) Agency of Natural Resources

PURPOSE

The USCG, EPA, DOI, DOC/NOAA and the States of ME, MA, NH, RI, and VT recognize that the effectiveness of physical removal of spilled oil may be limited by the dynamic nature of the environment in which the oil is spilled. In such circumstances, timely and effective containment, collection, and mechanical removal of the oil may not provide an adequate response. The burning of oil in place as a removal technique (*in-situ* burning), alone or in conjunction with mechanical removal methods and/or chemical countermeasures, may be considered as a means to enhance removal and reduce harm to public health and welfare, or the environment.

This Memorandum of Understanding (memorandum) is designed to implement sections of the National Oil and Hazardous Substances Pollution Contingency Plan (National Contingency Plan) [40 CFR §300.210 (c)(4)(ii)(D) and §300.115 (a)] and the requirements of 33 USC 1321 (j)(4)(B)(ii), the Federal Water Pollution Control Act, as amended by the Oil Pollution Act of 1990. This memorandum provides the primary decision makers in oil spill response (the Federal On-Scene Coordinator (OSC) and the State On-Scene Coordinator (SOSC)) with the authority to use *in-situ* burning in certain zones under the jurisdiction of the Region I Regional Response Team without additional

consultation or concurrence. The Responsible Party, another key player in spill response, will also be a part of the decision making process.

Because the jurisdictional boundary between Regions I and II divides Long Island Sound, the State of Connecticut will pursue a separate agreement on the use of this technique. When developed, this agreement will be included in Appendix III, Boundary Area Guidance and Agreements. References to Region I throughout this document apply to all Region I states except Connecticut.

This memorandum constitutes consultation under the National Contingency Plan with DOC/NOAA and DOI for the use of *in-situ* burning as an oil spill removal technique in the "B" Zone and consultation with DOC/NOAA and DOI, and concurrence of the States of ME, MA, NH, and RI in the "A" Zone (both zones defined under **Scope** below). It is anticipated an ignition source will be sufficient to light oil that is inherently combustible, provided a spill receives timely response action. This memorandum applies to *in-situ* burns that are lit using ignition sources (e.g., small quantities of burning gelled gasoline or kerosene released from a helotorch or a hand-held ignition pack). This memorandum does not apply to *in-situ* burns where the combustibility of the oil must be enhanced using a burning agent (e.g., through the direct addition of a flammable hydrocarbon prior to ignition or the addition of a wicking agent to enhance combustibility). Use of burning agents to enhance the combustibility of oil is subject to the approval requirements described in Subpart J of the National Contingency Plan (§300.910(c)).

This memorandum applies only to response operations within Region I where federal assistance is required. This agreement does not expand or otherwise modify the jurisdiction of any of the signatories to this agreement in matters that are the subject of this agreement.
This memorandum will be incorporated into the Region I Regional Contingency Plan and Area Contingency Plans within Region I.

AUTHORITY

Subpart C of the National Contingency Plan directs the Regional Response Teams to conduct regional planning and coordination of preparedness and response actions in conjunction with Area Committees in the case of oil discharges. Area Contingency Plans, written by Area Committees, should provide pre-approval of specific

countermeasures or removal actions that, if expeditiously applied, will minimize adverse spill-induced impacts to fish and wildlife resources, their habitat, and other sensitive environments. (40 CFR §300.210 (c) (4) (ii) (D)).

Commandant, USCG, has designated the USCG Captains Of The Port (as defined in 33 CFR Part 3) as the OSCs for coastal oil discharges (subject to joint response boundary agreements with EPA), and has delegated to these OSCs the authority and responsibility for compliance with the Federal Water Pollution Control Act and its amendments (33 USC 1221, et seq., as amended).

The U.S. EPA Administrator has designated EPA Regional Administrators as OSCs for inland oil discharges (subject to joint response boundary agreements with USCG), and has delegated to these OSCs the authority and responsibility for compliance with the Federal Water Pollution Control Act and its amendments (33 USC 1221, et seq., as amended). EPA Regional Administrators have further delegated the duties of OSC to members of their Regional staffs.

The DOI and DOC/NOAA are designated federal trustees of certain natural resources under Subpart G of the National Contingency Plan and are to be consulted regarding appropriate removal actions in an oil spill, including the determination to burn oil *in-situ* in United States waters, and must concur with pre-approval plans for the application of specific countermeasures or removal actions (Subpart C of the National Contingency Plan).

In the State of Maine, the State Oil Spill Coordinator from the Department of Environmental Protection has the authority to approve the use of *in-situ* burning for the control of oil spills.

In the Commonwealth of Massachusetts, the Department of Environmental Protection has the authority to approve the use of *in-situ* burning for the control of oil spills.

In the State of New Hampshire, the Commissioner of the Department of Environmental Services has the authority to approve the use of *in-situ* burning for the control of oil spills.

In the State of Rhode Island and Providence Plantations, the Commissioner of the Department of Environmental Management has the authority to approve the use of *in-situ* burning for the control of oil spills.

In the State of Vermont, the Secretary of the Department of Environmental Conservation has the authority to approve the use of *in-situ* burning for the control of oil spills.

SCOPE

This memorandum establishes decision authority for use of *in-situ* burning (absent the use of burning agents) within zones within Region I. The geographic zones and conditions are described below, and a map of the zones is attached as Appendix II.

1) "A" Zones — OSC decision to burn

Geographic Scope:
Zone "A" is defined as all waters subject to the jurisdiction of the United States located seaward of a line measured six miles from the mean low waterline along the coasts and islands of ME, MA, NH, and RI, that are not specifically defined as "Special Consideration Areas" (see paragraph 4 below).

Approval for *in-situ* burning in Zone "A":
Within Zone "A," the decision to use *in-situ* burning rests solely with the OSC. No further concurrence or consultation on the part of the OSC is required with EPA, DOC/NOAA, DOI, or the states of ME, MA, NH, and RI *(please refer to Special Consideration Areas that modify the "A" zone).* However, if threatened or endangered species are present in the immediate burn area, the trustee agency for that species must be consulted prior to initiating burning operations.

The OSC will immediately notify EPA, DOC/NOAA, DOI, and the applicable state(s) of a decision to conduct burning within the "A" zone via each agency's Regional Response Team representative.

2) "B" Zones — Unified Command decision to burn

Geographic Scope:

Zone "B" is defined as all waters subject to the jurisdiction of the United States located seaward of a line measured one mile and terminating six miles from the mean low water line along the coasts and islands of ME, MA, NH, and RI, that are not specifically defined as Special Consideration Areas (see paragraph 4 below).

Approval for *in-situ* burning in Zone "B":

Within Zone "B," the decision to use *in-situ* burning rests with the OSC and SOSC(s) within the Unified Command. Cases may arise where a state potentially affected by a smoke plume is not represented in the Unified Command because it may not be affected by the unburned oil. Therefore, the SOSC(s) from the state(s) within 6 miles of the burn source must also concur with the decision to burn (unless a Special Consideration Area has been established to reduce this distance). In Zone "B" no further concurrence or consultation on the part of the OSC is required with EPA, DOC/NOAA, DOI, or other states not within 6 miles of the burn source. If threatened or endangered species are present in the immediate burn area, the trustee agency for that species must be consulted prior to initiating burning operations. The SOSC is responsible for any additional concurrence/consultation requirements that apply at the state level.

The OSC will immediately notify EPA, DOC/NOAA, DOI, and applicable state(s) of a decision to conduct burning within the "B" zone via each agency's Regional Response Team representative.

3) "C" Zones — Unified Command decision to burn following additional consultations/concurrence

Geographic Scope:

Zone "C" is defined as waters and lands subject to the jurisdiction of the United States and within the geographic responsibility of Regional Response Team I that are shoreward of a line measured 1 mile seaward of the mean low water mark along the coasts and islands of ME, MA, NH, and RI, that are not specifically defined as Special Consideration Areas (see paragraph 4 below).

Approval for *in-situ* burning in Zone "C":

Within Zone "C," the decision to use *in-situ* burning rests with the OSC (USCG or EPA) and SOSC(s) within the Unified Command. The OSC must consult with DOC/NOAA and DOI on the appropriateness of *in-situ* burning as a removal action, and gain concurrence of states with land within 6 miles of the burn source (unless this distance has been reduced in a Special Consideration Area). The SOSC is responsible for any additional concurrence/consultation requirements that apply at the state level.

The OSC will immediately notify EPA, DOC/NOAA, DOI, and applicable state(s) of a decision to initiate a burn within the "C" zone via each agency's Regional Response Team representative.

4) "Special Consideration Areas"

Geographic Scope:

Special Consideration Areas are specific geographic areas where the level of approval/concurrence granted in Zones "A," "B," and "C" is modified by the any of the following agencies/entities within their authority, jurisdiction, and areas of responsibility: Area Committees, pre-designated OSCs, DOC/NOAA, DOI, and the states of ME, MA, NH, RI, and VT. These areas will be identified in writing to the Regional Response Team co-chairs and listed in Appendix I. Upon receipt of a Special Consideration Area, the Regional Response Team co-chairs shall solicit comments from signatories to this memorandum with jurisdiction over the area and any areas within 6 miles of the Special Consideration Area. Absent objection, Special Consideration Areas are effective 30 days from their receipt by the Regional Response Team co-chairs.

Approval for *in-situ* burning in Special Consideration Areas

Each defined Special Consideration Area shall contain specific restrictions or permissions that alter pre-approval or pre-consultation otherwise defined by this memorandum in Zones "A," "B," or "C". The restriction placed or authority granted by a Special Consideration Area may be defined to apply only under certain conditions, such as certain wind directions or in certain seasons. Special Consideration Areas shall specify what additional or lesser action, consultation, or concurrence is necessary to proceed with *in-situ* burning in that area. Means of contacting primary or alternate points-of-contact for Special Consideration Areas should be identified for work and non-working hours.

5) Boundary Areas - Region I Boundary

In areas where burning will have an impact across a Region I border into Canada or Region II (e.g., within 6 miles of the border), the concurrence of the applicable parties on the opposite side of the border must be obtained prior to use of *in-situ* burning. Specific cross-border guidance documents and agreements regarding near-border *in-situ* burning, when developed, will be included in Appendix III.

PROTOCOLS

The signatories to this memorandum agree that the decision to use *in-situ* burning lies with either the OSC or the OSC and the SOSC, based on the location of the burn as detailed in **Scope**. The SOSC is responsible for any additional concurrence/consultation requirements that apply at the state level. The decision to use *in-situ* burning should be made with guidance from the Region I *In-situ* Burning Policy (Information Section) and applicable Area Contingency Plans and is subject to the following conditions:

1. The OSC may authorize the use of *in-situ* burning on a discharge of oil to prevent or substantially reduce the hazard to human life without obtaining concurrence from EPA, DOI, DOC/NOAA, or the affected states, without following protocols established in this memorandum, and without following the guidelines in the Regional Contingency Plan and Area Contingency Plan. If *in-situ* burning is used in this manner, notification of EPA, USCG, DOC/NOAA, DOI and the affected state(s) via Regional Response Team representatives shall be made as soon as practicable. Once the risk to human life has subsided, this exception no longer applies.

2. The decision to use *in-situ* burning shall rest solely with the pre-designated OSC or jointly with the SOSC in certain zones as described under the **Scope** of this memorandum. This responsibility of the OSC may not be delegated.

3. If a decision has been made to use *in-situ* burning under the provisions of this memorandum, the OSC will immediately notify EPA, DOI, DOC/NOAA and the applicable state(s) of that decision via Regional Response Team representatives. This initial notification should include, but is not limited to, the following information to the extent available:

Type and amount of oil discharged

Area affected

The projected area of impact of the oil if not burned
Reasons why *in-situ* burning has been selected as a mitigation technique
On-scene weather

4. *In-situ* burning will be conducted by trained professionals using recognized techniques and technology. Burning will be conducted in a way that allows for safe and effective control of the burn to the maximum extent feasible, including the ability to stop the burn if necessary. Containment and control using fire-resistant boom is recognized as the preferred method of *in-situ* burning in open-water situations. In this situation, all practical efforts to limit the potential for igniting the source or adjacent, un-contained, or uncontrollable slicks will be made.

5. *In-situ* burning is advised only when the meteorological and sea conditions are operationally favorable for a successful burn. The OSC will give due consideration to the direction of the wind and the possibility of the wind blowing the smoke plume over population centers or sensitive resources onshore.

6. Health and Safety Concerns

(a) OPERATORS: Worker health and safety is of paramount concern. Each employer and OSC must comply with all applicable Occupational Health and Safety Administration regulations. Prior to any *in-situ* burn operations, a site safety plan must be prepared.

(b) GENERAL PUBLIC: Burning should be stopped if it becomes an unacceptable health risk to the general public. If at any time during burning operations exposure limits are observed to exceed National Ambient Air Quality Standards in nearby populated areas as a result of the burn, the OSC shall modify or suspend the burn operation as appropriate. Additionally, the OSC and the Unified Command should consider the potential effects of short term exposure of the public to high levels of particulates which may still meet National Ambient Air Quality Standards. Specifically, the OSC should consider the current short term *in-situ* burning exposure guideline recommended by the National Response Team (at the time of signature, the NRT guideline for short term particulate exposure from *in-situ* burning is 150 $\mu g/m^3$ of particulates less than 10 µm diameter (PM-10) averaged over one hour; the current National Ambient Air Quality Standard for particulates is the same concentration averaged over 24 hours. The NRT guideline will be revised when more stringent particulate standards are adopted). OSCs in Region I

shall factor this guideline on public exposure to *in-situ* burn emissions into burn initiation and continuation decisions. Public notification is advisable prior to initiating a burn.

7. The OSC shall ensure *in-situ* burning is conducted in accordance with any biological opinions rendered under Section 7 of the Endangered Species Act. Seasonal, spacial, or other similar restrictions identified in biological opinions shall be listed as Special Consideration Areas and placed in Appendix I. If threatened or endangered species are present in the immediate burn area, the trustee agency for that species must be consulted prior to initiating burning operations.

8. The OSC will make every reasonable effort to continuously evaluate the decision to burn, and allow Regional Response Team agencies and affected states the opportunity for comment. The OSC shall provide a mechanism to receive information from authorized representatives of the following entities that may necessitate termination of an *in-situ* burn: EPA, affected states, natural resource trustee agencies, and cognizant health agencies. Any verbal recommendations to terminate an *in-situ* burn must be followed up immediately in writing.

9. Representatives of the OSC shall monitor *in-situ* burning operations. The trustee agencies, the affected states, the Occupational Safety and Health Administration, and the responsible party may monitor *in-situ* burning operations, when feasible.

(a) Monitoring to establish “continue / modify / discontinue” information for input to the OSC shall accompany a burn. Visual monitoring may be sufficient provided the smoke plume is not predicted to affect human populations or highly sensitive areas. If smoke plumes are predicted to or may cross over populated areas, real-time PM-10 monitoring (a protocol is identified in Regional Response Team I *In-situ* Burning Policy — Information Section) is advisable and, when practicable, should be in place prior to the start of burn operations to gather baseline data.

(b) All burns must incorporate observations (typically visual) to monitor smoke plume behavior. A trial burn may be conducted to better estimate plume behavior prior to operational burning. Conditions under which the burn should be stopped, such as a threat of plume contact with the ground in populated or environmentally sensitive areas, shall be clearly identified to the maximum extent practicable to those conducting burn operations prior to starting the burn.

12. Mechanical recovery equipment shall be mobilized on-scene when feasible for backup and complimentary response capability. Provisions should be made for collection of burn residue following the burn(s).

13. If *in-situ* burning is used, a post incident debriefing will take place within 45 days to gather information concerning its effectiveness and to determine whether any changes to this memorandum are necessary. The debriefing will be chaired by the OSC, who will also arrange the time, place, and date of the debrief.

AMENDMENTS

This Memorandum of Understanding may be amended in writing in whole or in part as is mutually agreeable to all signatories.

Special Consideration Areas submitted to the Regional Response Team as outlined in paragraph 4 of the **Scope** of this memorandum will be promptly distributed to signatories and included in Appendix I.

CANCELLATION

Each signatory to this Memorandum of Understanding may withdraw their agreement to the memorandum in whole or in part by submitting a letter of withdrawal to the Regional Response Team co-chairs; withdrawal from this memorandum will take effect no earlier than 30 days after receipt of this letter. The Regional Response Team co-chairs shall promptly notify other document signatories. Withdrawal by signatories shall not have any effect on this agreement with respect to remaining signatories.

SIGNATURES

/s/ May 19, 1998

Captain Thomas M. Daley — Date
First Coast Guard District (m)
Acting Regional Response Team Co-Chair

/s/ May 19, 1998

Ms. Dennisses Valdés — Date
US EPA Region I
Regional Response Team Co-Chair

/s/ May 19, 1998

Commander Burton Russell, USCG — Date
Captain of the Port Portland
Federal On-Scene Coordinator

/s/ May 20, 1998

Captain John Grenier, USCG — Date
Captain of the Port Boston
Federal On-Scene Coordinator

/s/ May 19, 1998

Captain Peter A. Popko, USCG — Date
Captain of the Port Providence
Federal On-Scene Coordinator

/s/ Jan 26, 1999

Mr. Andrew Raddant — Date
Regional Environmental Officer / Northeast
U.S. Department of Interior
Regional Response Team Representative

/s/ May 19, 1998

Commander Gerald Wheaton — Date
NOAA/Hazmat
U.S. Department of Commerce
Regional Response Team Representative

/s/ May 19, 1998

Mr. David C. Sait — Date
State of Maine
State Oil Spill Coordinator

/s/ Oct 6, 1998

Ms. Trudy Coxe — Date
Commonwealth of Massachusetts
Secretary of Environmental Affairs

/s/ Jan 25, 1999

Mr. Robert W. Varney — Date
State of New Hampshire
Commissioner, Department of Environmental Services

/s/ July 9, 1998

Mr. Andrew H. McLeod — Date
State of Rhode Island and Providence Plantations
Director, Department of Environmental Management

**

Ms. Barbara Ripley — Date
State of Vermont
Secretary, Agency of Natural Resources

**: Pending as of 1/26/99. If approval will be protracted, VT will send a letter to co-chairs stating that they have no objection to use of MOU in areas that do not affect Vermont.

Appendix I: Special Consideration Areas

State of Maine Special Consideration Area **Year-round**

The OSC shall gain concurrence of the Maine State On-Scene Coordinator for *in-situ* burns within 12 miles of the Maine coast.

20 foot water depth Special Consideration Area **Year-round**

The OSC must consult with DOI and NOAA Regional Response Team representatives when using *in-situ* burning in waters where the depth is less than 20 feet at mean low water. (Such consultation is already required in Zone C, which is inside 1 mile, so this only applies to any areas that may be less than 20 feet deep that are beyond 1 mile from shore.)

National Marine Fisheries Service Special Consideration Area Summary

Details of boundaries and conditions detailed in NMFS Northeast Section 7 consultation letter to First Coast Guard District dated November 18, 1997.

Case-by-case consultation with NMFS Northeast Region required for *in-situ* burning in:

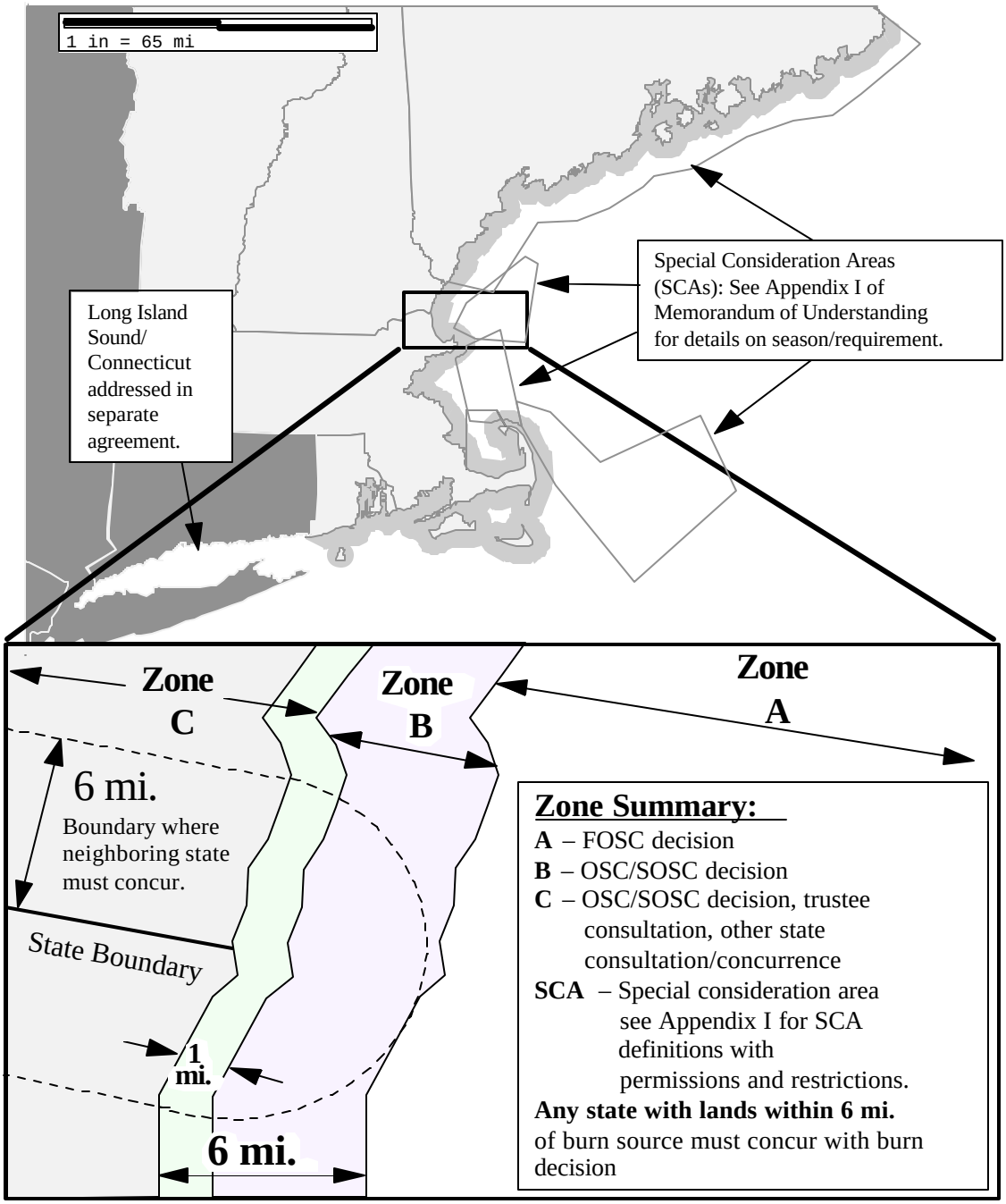
Jeffreys Ledge	*April 1—September 30*
Great South Channel	*April 1—June 30, October 1—November 15*
Cape Cod Bay	*February 1—May 15*

National Ocean Service Special Consideration Area

Case-by-case consultation with sanctuary manager required for *in-situ* burning in:

Stellwagen Bank National Marine Sanctuary	*Year-round*

Appendix II: Zone Boundary map and diagram



Appendix III: Boundary Area Guidance and Agreements

Boundary agreements or guidance developed (i.e. with Canadians, for Region II, Long Island Sound, etc.) may be attached here.

9600 Conversions

9610 Metric Conversion Factors

Volume

1 cm^3 = 1 ml = .001 L
1 L = 1dm^3 = 0.001 m^3
1 L = 0.264 Gallon Liquid US
1 L = 0.00629 barrels
1 metric ton = 0.0034 US gallons

Length

1m = 10^{-3} km = 10^2 cm = 10^3 mm=10^6 u = 3.281 ft
1 cm = 0.3937 in
1 m = 3.2808 ft = 39.37 in = 1.094 yd
1 m = 0.5467 fathom
1 km = 0.62 mile = 3273 feet
1 km = 1.852 naut miles

Area

1 hectare = 10,000 m^2 = 0.01 km^2
1 m^2 = 10.76 ft^2 = 1.196 yd^2
1 hectare = 2.471 acres = 0.00386 sq mile
1 km^2 = 0.3 naut. $mile^2$ = 0.4 statute $mile^2$

Surface Tension

1 kg-f/m = 9.807 N/m = 9807 dyne/cm
1 kg-f/m = 0.672 lbs/ft = 5.61 lb/in
1 N/m = 0.0685 lb/ft
1 N/mm = 5.64 lb/in

Application Rates

1 L/m^2 = thickness in mm
1 L/hectare = 0.1 m^3/km^2
1 L/hectare = 0.1068 gal/acre

Pressure

1 N/m^2 = 0.102 kg-f/m^2 = 1 pascal (Pa)
1 bar = 10^6 dyne/cm^2 = 0.1 Mpa
1 cm-Hg = 1333 Pa
1 Pa = 1.450 x 10^{-4} psi
1 kg-f/m^2 = 0.0206 lb/ft^2
1 Mpa = 9.869 atm

Flow Rate

1 L/min = 0.0167 L/sec = 60 L/hr = 1440 L/day
1 L/min = 0.06 m^3/hr
1 L/min= 0.265 gpm (US)
1 L/min = 9.05 API bbl/day

Velocity

1 cm/sec = 10^{-2} m/sec = 36 m/hr = 0.036 km/hr
1 m/sec = 1.94 knots (US)
1 km/hr = 0.54 knots (US)
1 km/hr = 0.621 mph (US)

Mass/Weight

1 g = 10^{-3} kg = 10^3 mg
1 metric ton = 1000 kg
1 kg = 2.21 lbs = 0.0685 slug

Force

1 newton (N) = 10^5 dyne
1 newton = 0.102 kg-f
1 newton = 0.2248 lb
1 newton = 7.233 pdl

Miscellaneous

1 ton of oil = 1000 L = 1 m^3 = 264.2 gal

storage volume for boom, volume/length: ft^3/ft x 0.093 =

9620 English Conversion Factors

Volume

1 yd^3 = 27 ft^3 = 56656 in^3
1 gallon liquid US = 0.134 ft^3 = 231 in^3 = 3.8 L
1 gallon British = 1.2 gallon liquid US
1 API barrel = 42 gallon liquid US
1 gallon US = 294.18 metric tons

Length

1 ft = 0.333 yd = 12 in = 0.305 m
1 in = 2.54 cm
1 yd = 0.914 m
1 fathom (US) = 6 ft
1 mile (US) = 8 Furlong
1 mile (US) = 320 ROD = 5280 ft = 1.61 km 1 mile (US) = .87 Nautical Mile (NM)

Velocity

1 knot = 1 NM/hr
1 knot = 1.15 mph (US)
1 knot = 1.69 ft/sec
1 knot = 6080 ft/hr
1 mph = 88 ft/min = 1.47 ft/sec

Mass/Weight

1 slug = 32.17 lb
1 lb = 16 oz

Area

1 yd^2 = 9 ft^2 = 1296 in^2
1 acre = 43560 ft^2 = 4840 yd^2 = 247.10 km^2
1 sq mile = 640 acre = 0.386 km^2
1 statute $mile^2$ = 2.6 km^2 = 0.8 naut $mile^2$1 naut $mile^2$ = 3.4 km^2

Surface Tension

1 lb/ft = 0.0833 lb/in

Pressure

1 atm = 406.8 inch of water
1 atm = 14.70 lb/in^2 = 2116 lb/ft^2
1 lb/in^2 = 27.68 inch of water
1 lb/in^2 = 144 lb/ft^2

1 ton (short) = 2000 lb
1 long ton = 1.12 ton
1 metric ton = 2204.6 pounds

Force

1 lb (force) = 32.17 poundal

Application Rates

1 gal/ft^2 = 0.623 thickness (in)

1 gal/ft^2 = 1037 API bbl/acre

Flow Rate

1 gpm = 0.0167 gps (gal/sec)= 60 gal/hr
= 1440 gal/day
1 gpm = 0.00223 cfs (ft^3/sec)
1 gpm = 34.3 API bbl/day

Miscellaneous

storage volume for boom, volume/length: ft^3/ft x 0.093 = m^3/m

mg/L = parts per million(ppm) = % x 10^{-2} x 10^6 = ppm

(example: 0.7 % oil content; 0.007 x 10^6 = 7000 ppm)

water density = 62.4 lb/ft^3 = 8.34 lb/gal

viscosity in cetipoise (cp) = viscosity in centistokes (cSt) x density

temperature Fahrenheit = (temperature Centigrade x 1.8) + 32

square miles (covered by oil slick) x 68,430 = US gallons (estimate)

Deadweight Tonnage (DWT)

Small tanker = 1,000 – 15,000 DWT
Medium tanker = 35,000 DWT
Large tanker = 118,000 – 155,000 DWT
Supertanker = 215,000 DWT

Amount of oil cargo in a full tanker based on DWT

DWT x 7.33 = barrels of oil
DWT = 307.86 = US gallons of oil

Net Tonnage/Net Registered Tonnage

NT x 748.1 = US gallons of oil
MT x 17.8 = barrels of oil

9700 Response References

9710 Geographic Response Plans

The Geographic Response Plans (GRPs) are strategies for boom operations. They are designed to be used by a first responder for the first 24 hours of an oil spill. They are referenced by Area Contingency Plan, but they are a separate document.

9720 Environmental Sensitivity Index

The Environmental Sensitivity Index (ESI) maps identify sensitive environmental areas along the coast. They use a scale from one (1) to ten (10) to rank the types of shoreline, they identify biological features of an area and identify socioeconomic features.

9800 Reserved

9900 Reserved for Area/District